

ECONOMIC HISTORY OF THE AMERICAN PEOPLE

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A revision of Ernest L. Bogart's '
Economic History of the American People



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PREFACE TO NEW AND REVISED EDITION OF 1942

No justification is needed today for a book on economic history, for all history is now being rewritten from this standpoint. It has been said that each generation must rewrite the history of the past for the purposes of its own study. This is true because each generation views with greatest interest those aspects of life in the past which are of largest present importance. Neither the theological history of the seventeenth century nor the constitutional history of the eighteenth century satisfies the student of today who sees in the conflict of economic interests a fruitful explanation of human progress. It is not that we are more material-minded, but rather that we are beginning to recognize the importance of those economic factors which modern industrialism is pushing to the fore. Economic history is neither materialistic nor deterministic, but it emphasizes the organic character of human development and insists that if a true picture is to be presented the most essential elements cannot be omitted.

Economic history is a study of causes and tendencies, not a mere narration of observed facts ; it supplies a reasoned interpretation of human progress. It is an economic analysis and causal explanation of men's actions in their most absorbing pursuits. It is an attempt to describe the origin and development of economic and social institutions, and to explain present economic problems by setting forth the historical background. Economic history is broader than either industrial or social history, for it endeavors to explain the causal interrelationships of our complex modern society. It is not the study of a particular group of facts, but the history of the people from a particular point of view. It recognizes the existence of other interests and of other motives to conduct, but it insists upon the importance of economic factors in conditioning the progress of a people.

This edition, the third, introduces Dr. Kemmerer as joint author and contains an extensive revision of the second half of the book. No attempt has been made to alter the first half beyond a few scattered corrections. Professor Bogart has revised and brought down to date the six chapters on agriculture, transportation and commerce since 1860. Dr. Kemmerer is responsible for the six chapters on manufacturing, labor, and finance for the same period. The labor and finance chapters have been almost completely rewritten. Certain sections in the previous edition have been eliminated to make room for more important and recent material. Two new chapters have been added, one on commerce since 1914, and a concluding chapter tracing social changes from 1860 to 1940.

Effort has been made throughout the revised sections to explain pertinent economic principles and to make greater use of them in relating our economic history. This is in keeping with the trend of the times as well as with our own inclinations. However, the reader will find that even authors with economic training seem to stress factual narration more than economic principles. This is inevitable since it takes but a few lines to explain, for example, the principle that "specialization is limited by the extent of the market," but it requires many pages to show the steps by which the market was widened through countless transportation improvements and the stages by which the almost self-sufficient colonial household gradually evolved into the modern home so dependent on widely scattered factories. An important innovation in this revision is the new approach in the chapters on finance. In place of a stereotyped summary of money and banking history there is an organized discussion of capital and of the development of such institutions as corporations, investment banks, stock exchanges, and commercial banks by which capital is siphoned to industry. The financing of the costly New Deal program is also treated and some of the problems of war finance considered.

ERNEST L. BOGART

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ECONOMIC HISTORY OF
THE AMERICAN PEOPLE



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PHYSICAL MAP OF THE UNITED STATES

Part I—Colonial Development

1492-1783

CHAPTER I

THE ECONOMICS OF COLONIZATION

Trade of Europe with the Orient.—Near the close of the fifteenth century there occurred a change in the trade activities and relations of the leading countries of Europe so profound that it has been called the Commercial Revolution. Just as the Renaissance brought about a new learning and the Reformation a new spirit in religion, so the Commercial Revolution was the manifestation of the stirring of the same intellectual forces in the economic domain.

The art of navigation was improved, the routes of trade were altered, new commodities were introduced into the European market, and the general standard of living was raised.

The most important phase of the trade expansion of Europe during this period was that with the Orient. Europeans developed a taste for oriental wares, and certain things were in especial demand. Foremost among these were edible spices, which had an importance scarcely believable today.

The diet of those times throughout Europe was limited and monotonous as well as coarse. Because of the lack of winter fodder, the excess cattle were slaughtered in the fall, and their flesh was smoked or salted down for winter use. To such dishes spices gave flavor and variety. Even ale and wines were highly spiced, and pepper, nutmegs, and cloves were eaten as delicacies. Scarcely less remarkable than the insatiable demand for spices was the limited area of production from which they were supplied.

Precious stones were also highly esteemed for personal adornment and for the decoration of shrines and ecclesiastical vestments, and were believed by many to possess magical

qualities. Diamonds, rubies, sapphires, pearls, emeralds, turquoises, and other precious stones came almost exclusively from Persia, India, and Ceylon.

Drugs, perfumes, dyes, fragrant woods, and gums were also in great demand for various purposes. These articles also were to be found only in the East.

In addition to the spices, jewels, and pharmaceutical products there were produced in the same eastern lands manufactured goods of peculiar delicacy or excellence which were in great demand in Europe, such as metalware and fabrics.

For all these valuable goods from the Orient, Europe had only a few commodities which contained sufficient value in a small bulk to be shipped eastward. Woolen cloth, coral, and certain metals, such as arsenic, antimony, quicksilver, tin, copper, and lead, were highly valued in Asia; but these alone could not pay for the Eastern goods consumed in Europe, and the balance had to be paid in gold and silver. Hence the precious metals were drained off and metallic money grew so scarce in Europe that each coin had a very much greater purchasing power than the same quantity of gold or silver has today.

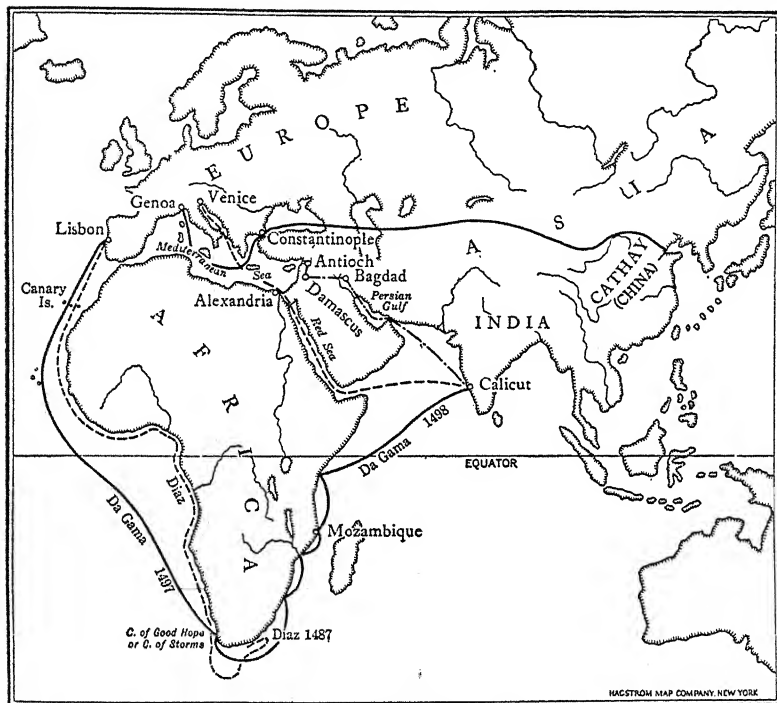
In these facts is to be found the explanation of the eager search for gold and silver which was one of the strong motives for exploration of the New World.

Trade routes.—Not merely was the distance between Europe and Asia long, but the difficulties of intercourse were increased by barriers of mountain and desert. The routes of trade were determined by the physical features of the intervening areas, and led through the few gaps which existed. In the fifteenth century the two continents were linked by three general routes over which the oriental trade passed—the southern, the central, and the northern.

Wares for Europe were collected as far east as China and Japan, from the Spice Islands and other points, and brought together at Calicut in India. From this point the southern all-water route stretched across the Arabian Sea and up the Red Sea, ending at Cairo or Alexandria. The central route diverged through the Persian Gulf to Basra, following the Tigris River to Bagdad, and then across the desert to the Mediterranean. The northern route was a system of all-

land lines of trade leading from China and India to Constantinople. This is shown on the following map.

Arrived at the eastern Mediterranean ports, the Oriental wares were taken over by European traders, for the most part Italians from Venice, Genoa, and Florence. From these cities trade routes led through the passes in the Alps to all



MEDIEVAL TRADE ROUTES

parts of Europe, or by ship through the Mediterranean to England, Flanders, and the Scandinavian countries.

Such was the character of the trade between the Orient and Europe. Months and even years might elapse between the time when, say, pepper was packed in Ceylon and when it was finally consumed in London. So difficult and costly was the transportation that only articles of high value and small bulk could stand the charges, and the final cost was many times the original value.

And yet so insistent was the demand, that this oriental

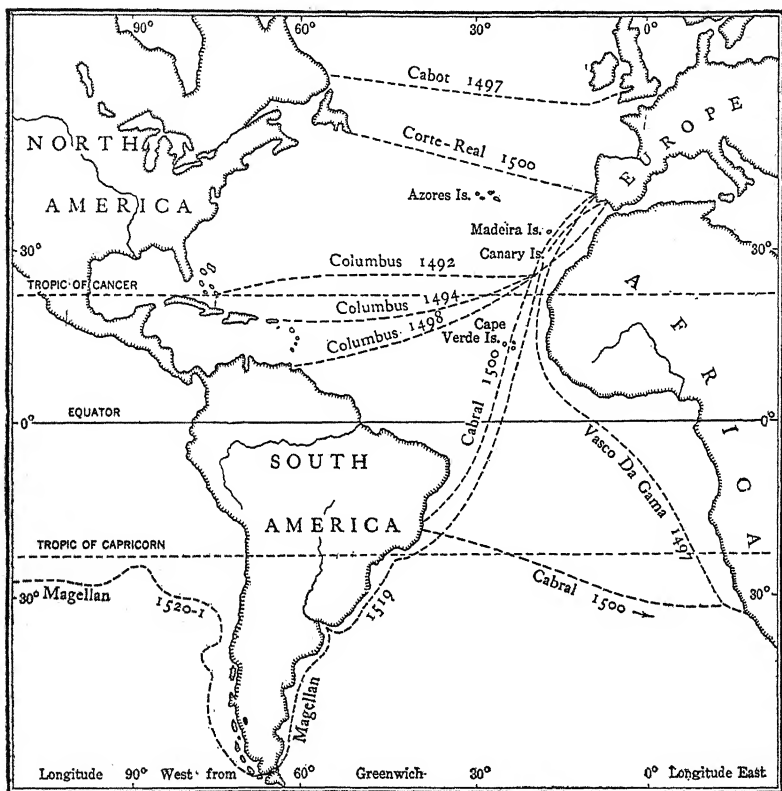
trade was the most extensive and the most lucrative known to Europe during the Middle Ages (843-1450). It was clear that the demand for oriental luxuries, which was moreover growing in Europe, could no longer be met by the old avenues of trade. A new route must be found by which these goods could more safely and cheaply be furnished to Europe, and this was discovered by the Portuguese.

If to the pressure of a demand for spices, the draining off of the precious metals, the interference with old routes by the Turks, and the monopoly of the Italian cities, there be added the motives related to religion, crusading, conquest, and adventure, sufficient explanation is afforded of the eager search for another route to the Indies which stimulated so many voyages of discovery during the fifteenth and sixteenth centuries.

A century of exploration.—The pioneer work in the great explorations was done by the Portuguese, and consisted for the most part of a series of discoveries on the west coast of Africa. In 1445 Dinis Diaz reached Cape Verde, fifteen hundred miles from Lisbon, but here progress was stayed by the discovery of the profitableness of the slave trade, which proved more alluring to future expeditions than geographical discovery. Finally, however, in 1486, Bartholomew Diaz sailed the remaining distance to the Cape of Good Hope, but when he rounded this and sailed to the east his sailors mutinied and he was forced to return home. But in 1497 Vasco da Gama followed in the wake of Diaz and, after rounding the cape, sailed up the east coast and then across the Indian Ocean to India. Here he landed, at Calicut, in May, 1498, and after erecting a marble pillar as a monument of his discovery he obtained a cargo of Eastern products, which paid the costs of the voyage many times over, and returned safely to his home port. The Portuguese explorations had thus resulted in the discovery of a new all-water route to the Orient.

Even before Da Gama had sailed to India around the southern extremity of Africa, Ferdinand and Isabella of Spain had commissioned a Genoese navigator, Christopher Columbus, to sail westward toward the same goal. Although geographers generally believed that the earth was a

sphere, to Columbus is due the credit of translating theory into action and of having the courage to sail boldly into the "sea of darkness" in order to reach the Indies. In 1492 he sailed upon his memorable voyage with three small



ROUTES OF DISCOVERIES

vessels, and after seventy long days came upon an island which he supposed to be one of those off the coast of Asia, but which has been identified as one of the Bahama group.

It may be said that the discovery of America was an unexpected incident in the search for a shorter route to the Indies. Indeed the discovery would not have been long delayed even had Columbus not sailed to the west, for in 1500 Cabral with some Portuguese vessels bound for India, giving too wide a berth to the treacherous waters about

Cape Verde, was carried by the western equatorial current to the shores of Brazil, which he claimed for the King of Portugal.

Further voyages were necessary to prove that a new world had been discovered and to show its proper relation to Asia. Balboa (1513) proved by his discovery of the Pacific Ocean that the new land was a continent and not a part of Asia, while the voyage of one of Magellan's ships around the earth (1519-1522) gave the final proof of its sphericity and also demonstrated how vast was the distance which separated Europe from Asia. Previously it had been taught that seven-eighths of the earth was land; now the proportions were reversed. The feat of Magellan has well been described as "the greatest single human achievement on the sea,"¹ and certainly merits our admiration. Columbus's first voyage took only seventy days, but Magellan's voyage across the Pacific took half again as long and this after a year of storm and stress before he penetrated the strait which immortalizes his name. These voyages are shown on the map on page 5.

One of the significant results of these discoveries was to move the routes of commerce for Europe from the inland seas and the edge of the Atlantic to the open oceans. Until this period maritime commerce had been carried on chiefly within the Mediterranean, the Black, and the Baltic seas; now it ventured around the world and learned that oceans provided the most convenient pathways to other lands. With this change the Mediterranean city states of Venice and Genoa lost their importance and the countries which looked out upon the Atlantic—Portugal, Spain, France, Holland, and England—were given new opportunities. The doctrine of the freedom of the seas was, however, not accepted for some time, and the European states attempted to apply to the open waters of the ocean the narrow principles of national control which they had exercised over the closed waters of the inland seas.

Motives for exploration and colonization.—The discovery of America was followed by a century of exploration, which led to a better geographical knowledge of the New

¹ E. G. Bourne, *Spain in America*, p. 128, quoting several other authors.

World and of its relation to Europe and to the Orient. In explaining the remarkable outburst of maritime activity which characterized the leading nations of Europe during the sixteenth century, it will be helpful to examine the motives which actuated them.

The age of the Renaissance was one of intellectual curiosity; men wished to know of the world in which they lived. In explaining the motives which led to the great outburst of exploration in the fifteenth and sixteenth centuries the pure joy of adventure and the satisfaction of intellectual curiosity must not be omitted. The other motives were different among different nations and varied with each of these from time to time, but in the main they can be reduced to the three groups of economic, political, and religious, although these were inextricably mingled.

Route to India. The main impulse in the work of exploration and colonization was economic, and of all the economic motives the search for a shorter route to India was the first and for a long time the most potent. It was this which sent Columbus to the west across the Atlantic, and this motive held in the Spanish mind until Balboa proved that America was a new continent and Magellan discovered the only passage to the East. The way to the Orient had now been pointed out, but so strong was the idea of the territoriality of the ocean, according to which the routes first discovered by da Gama and Magellan belonged to Portugal and Spain respectively, that the other nations thought it necessary to find routes of their own. Another century, consequently, saw a fruitless search for a northeast passage around the north of Europe and for a northwest passage through the American barrier.

The search for a shorter water route to India through the obstructing land masses of America, whose continental size was of course not appreciated, was responsible for the prying expeditions which during the sixteenth century ranged up and down the Atlantic coast and penetrated every larger river and bay.

The first explorations were made by the Spanish. The French were close on the heels of the Spanish in this work, but the most persistent in their efforts to find a northwest

passage were the English. For this there were several reasons. In the first place such a short cut would bring England nearer to the East with its treasures, and in the second place, it would avoid trespassing on the Portuguese and Spanish routes. The discovery of a northwest passage by the English would have the advantage not only of securing to England a route entirely her own, but it would have the additional advantage, by passing through a cold climate, of opening up a market for England's great staple, woolen cloth.

The pursuit of this chimera of a northwest passage continued for another century and is evidenced by the names now borne by straits and bays of the northern waters. Frobisher (1576) sailed to the northwest "for the further discovery of the way to Cathay," and was followed by Davis (1586), Baffin (1615), Fox and James (1631) and others.

Meanwhile the Dutch had entered the field. In 1609 Henry Hudson, an Englishman in the employ of the Dutch East India Company, while searching for a shorter western route to India, discovered the river which bears his name. In the following year, once more in the service of England, he sailed into the vast expanse of Hudson's Bay, and was confident that at last the passage had been found. They believed that only a mass of islands separated them from Cathay and hoped in every strait and river to find an opening to the Orient. The only tangible result of these adventurous and often tragic voyages into the icy waters of the north was the establishment of England's claim to a territory which later became valuable as the scene of operations of the Hudson's Bay Company.

Precious metals. The acquisition of the precious metals came to occupy first place as a motive to exploration after the discovery of the treasures in Mexico and Peru and the opening up of the silver mines in those countries. The conquest of Mexico (1519-20) by Cortes, one of the most extraordinary episodes in modern history, cannot be told here.²

The main purpose in conquering this territory was to ob-

² The story is most interestingly told by W. H. Prescott, *History of the Conquest of Mexico*.

tain the vast store of gold and silver articles which the natives had been accumulating for centuries and which were now promptly shipped to Spain. Rumors soon reached the Spaniards of even greater wealth among the Incas of Peru, and to gain this Pizarro, with a company of one hundred and eighty-three men, was sent to conquer that country (1531-34). This was done with much cruelty and the treasures of the Incas were plundered and sent back to Spain. Not merely were the accumulated stores of the precious metals appropriated, but the mines were developed and a steady stream of treasure flowed from the New World to Spain.

The total production from Spanish America is estimated to have amounted to 740,175,000 pesos down to 1600, or about \$1,480,350,000, estimating the peso at that time to have been worth about two dollars. This trebled the stock of gold and silver in Europe, increasing the supply of coins about twelvefold, and caused the abandonment of the silver mines of Europe. The coining and circulating of gold and silver affected general prices, which rose enormously in all countries into which the new money flowed.

The easily acquired wealth of the Spanish stimulated other nations to search for gold and silver, and this motive appears in many of the early expeditions of the French and English. Even when the true movement of colonization began, it was hoped that gold and silver might be found, and the early charters usually reserved a fixed proportion, about one-fifth, to the King. The inclusion of gold miners and assayers on these first enterprises shows how strong this motive was. But since the northern regions yielded neither gold nor silver, it seemed to the other nations that the simplest way to obtain these was to take them from the Spanish, and throughout the sixteenth century the Spanish treasure ships were harried and plundered by pirates or by the scarcely less forthright Elizabethan buccaneers.

Fisheries. When it was discovered that gold was lacking in the northern country, other motives became more important in leading to the exploration of the New World, and among these the fisheries ranked high. Danish and English and perhaps other fishermen had caught cod off the shores of Iceland before America was discovered, and when John

Cabot returning from his first voyage reported the possibilities of codfishing off Newfoundland, they were quite ready to follow his suggestion. When Cabot sailed the following year on his second voyage, he was accompanied by three or four small ships from Bristol. These Devonshire fishermen were followed within six years by Spanish and Portuguese, Normans and Bretons, and thereafter for a century and a half these daring and rugged men fished in the icy waters off the banks. They set up their drying stages on the shores where the enormous hauls of cod were dried, much as they are today. These found a ready market in Europe, which was still wholly Catholic at the beginning of the sixteenth century and where consequently fish was in great demand as food on the numerous days—two or three a week—when the eating of meat was forbidden.

Fur trade. A new turn was given to French enterprise by the discovery of the St. Lawrence River by Jacques Cartier in 1534 and by the contacts which were established with the natives, and a new motive was given for exploration and trading. Although French explorers discovered neither gold nor the northwest passage, they found a traffic which yielded enormous returns. This was the fur trade. The Indian tribes inhabiting what is now known as Canada lived by hunting and fishing, unlike those farther south who practiced a settled agriculture. The early explorers found that they could obtain valuable furs from the Indians in exchange for relatively trifling commodities. Jesuit priests followed the fur traders and soldiers accompanied them, and these three groups were the characteristic inhabitants of forest settlements. The inhospitable climate did not tempt to agriculture; they were too far from the sea to make fishing profitable; there was no market for the lumber; and manufacturing did not exist. But in the fur trade they found a resource which yielded enormous returns. Consequently, the scanty population of New France consisted principally of rovers; in 1632 "not over 180 of its inhabitants might properly be called settlers."³

The fur trade, which was carried on throughout this imperial stretch of territory by the French, was important and

³ R. G. Thwaites, *France in America*, p. 34.

lucrative in itself, but it also had far-reaching consequences for it engendered hostilities both with the Indians and with the Dutch and English. The Indians were the most successful trappers, and each spring they would bring to the trading post the furs which they had caught during the preceding winter. In exchange for the valuable beaver, otter, fox, and other pelts, they received cloth, blankets, hatchets, pots and pans, and sometimes fire-arms, ammunition, and rum, though the exchange of these last three was usually forbidden by the trading companies.⁴ In New France the fur trade was officially for the most part in the hands of monopolistic companies, but much was carried on by independent traders or *coureurs de bois* whose illicit traffic was winked at by the authorities.

So rich a prize as the fur trade of the St. Lawrence and the Great Lakes was not to go to the French undisputed, and from the south there soon appeared serious competition. It did not take long to deplete the supply of pelts in New England and the rich Champlain country of New York, and by the end of the seventeenth century the trade in these British colonies declined greatly. Then the English pushed up to Lake Ontario or to the St. Lawrence to intercept the Indians with their heavily laden canoes on their way to Montreal or Quebec. Not content with these pickings they next pushed out into the Ohio country or, through their allies the savage Iroquois Indians, endeavored to divert the western fur trade to themselves. The later stages of this struggle must be deferred until a subsequent chapter.

Raw materials. As the colonies developed, new economic motives led the European countries to regard them with more and more favor. Among these motives may be mentioned the desire for sources of supply of raw materials and of markets for home manufactures. The early reports of explorers in the New World gave glowing accounts of the natural productiveness of the country, and it was thought

⁴ "The following may be quoted as prices (not, however, official) paid by the Hudson's Bay Company's factors about 1775, at its inland posts: a gun, 20 beaver skins; a strand blanket, 10 beaver skins; a one-pound axe, 3 beaver skins; half a pint of gunpowder or 10 balls, 1 beaver skin. The principal profits accrued from the sale of knives, beads, flint, steel awls, and other small articles. Tobacco fetched one beaver skin per foot of 'Spencer's Twist,' and rum 'not very strong,' two beaver skins per bottle." B. Willson, *The Great Company*, II, 65, note.

that many raw materials and other products which the people of Europe needed might be obtained there. According to seventeenth century ideas England was much too dependent upon other nations for essential articles. Thus she imported her naval stores from Russia and Poland; copper from Sweden; iron from Spain; wines, salt, and canvas from France; spices from the Indies. All these and other articles, it was thought, might be obtained from American colonies if the colonies were developed. At the same time the interchange of goods between England and the New World would stimulate the growth of an English merchant marine and train up a sturdy set of English seamen.

Markets. With the settlement of the new colonies these came to be valued also as markets for the developing industries of the mother countries. As early as 1553 Hakluyt tells us that one of the motives leading to exploration was the desire for markets for the commodities and goods of England. Half a century later (1606), the "colony at Virginia" is advocated as a place "fit for the vent of our wares." At first it was thought that the Indians might be customers for English textiles, but after this was seen to be futile it was hoped that English settlers might become prosperous enough to buy largely from the mother country.

Outlet for population. A final economic motive for exploration and colonization, which was emphasized in contemporary writings, was that the new settlements would furnish an outlet for the surplus population of England. Throughout the sixteenth and seventeenth centuries many complaints were heard about the excessive population. Was there any basis for such complaints? Relatively, there was a surplus, for the demand for labor had declined and the supply, that is the number of people in the country, had remained about the same. The cessation of the European wars left many adventurers and younger sons of the nobility without an occupation, and the substitution of sheep pastures for farms together with the inclosure of the land threw multitudes out of work and led to an alarming increase in the number of beggars and highwaymen. All these, it was hoped, would find opportunity for improvement of their condition in the colonies.

Price changes.—These were the reasons usually cited, but other far-reaching economic and social changes were taking place which dislodged people from their moorings and gave additional stimulus to their movement to the colonies. One of the powerful factors, little understood at the time but whose effects were obvious enough, was the increase of prices by reason of the great increase in the quantity of precious metals put into circulation as money throughout Europe.

By 1640 money in Europe had sunk to about one-fifth of its former value. While prices rose enormously rents, which were generally fixed, lagged behind, and wages rose slowly or were held down by legislation. The result was a social revolution and a dislocation of the whole economic and financial organization. Many noble families found their real incomes seriously diminished, and when the cessation of war under Elizabeth closed that source of employment, many an impoverished gentleman or young noble sought to recoup his fortunes in the New World. Serving men and retainers were discharged by reduced grandees faster than they could be absorbed in the rigid industrial system, while the agricultural changes reduced the field of employment there. The process of adjustment to these changed conditions was slow and painful, and in the circumstances American colonization afforded a welcome relief for what seemed a surplus population.

Religion. Already, in the recital of the economic motives to exploration and colonization, the influence of religious motives has necessarily been noted. The religious motive was strong, especially in the minds of the Catholic sovereigns and missionaries. "We come in search of Christians and spices," said da Gama. Among the Spanish the spread of the gospel and the conversion of the natives to Christianity was a constant ideal which upheld the priests in the establishment of missions and similar work. In the towns monasteries were built, in the villages friars preached and carried on parish work, and among the wild Indians missions were established where agriculture and industrial arts were taught at the same time that religion was inculcated.

Far to the north equally devoted French priests and curés carried the gospel to the Indians of that section and sought

to improve living conditions. Missions were established throughout the territory covered by the fur traders and where villages existed the curés carried on their spiritual ministrations along with a certain amount of industrial and agricultural guidance. No history of New France would be complete which did not testify to the self-sacrifice and heroism of the priests and missionaries in that country. Most of the work was carried on by the Jesuits, but the Franciscan and other orders were also represented.

The Protestant English found a religious satisfaction in plundering treasure ships of Catholic Spain, and they also proclaimed the salvation of the Indians as one of the purposes of exploration. As one of the benefits of colonies Sir Humphrey Gilbert mentioned the preaching of the gospel among the natives, "whereby they may be brought from falsehood to truth, from darkness to light . . . from the devil to Christ, from hell to heaven." And a few years later Captain John Smith declared that the first object of the Virginia Plantation was "to preach and baptize into the Christian Religion, and by the propagation of the Gospel, to recover out of the arms of the Devill, a number of poor and miserable soules wrapt up unto death in almost invincible ignorance."

The desire on the part of liberal-minded men to find a place where they could worship God according to the dictates of their own consciences also operated as a motive to colonization. More than one of the English colonies was settled by persons who migrated to the colonies to escape religious persecution at home. Separatists and Puritans settled in Massachusetts that they might worship after their own fashion. Roger Williams withdrew to Rhode Island to secure liberty of conscience. Maryland was founded as a refuge for English Catholics, while French refugees fled to the Carolinas. The Quakers and other sects found homes in Pennsylvania and other colonies.

Political motives were present in nearly all the schemes for colonizing North America. The settlement of Virginia and later of the Carolinas was regarded as a check to the northward advance of the Spanish, while similar outposts were established in the north to resist the encroachments of

the French. Rivalry with Spain was a note that ran through all the work of exploration and settlement, not only on the part of England, but also of France and Holland, while a similar struggle later took place among these three nations. Political disaffection at home, as during the period of the "great migration" from England, also sent many settlers across the Atlantic in search of political liberty and of freedom from oppressive political conditions.

Colonization.—Four nations—Spain, France, Holland, and England—had carried on the work of exploration of the New World and now sought to dominate it. As the sixteenth century had been one of exploration, so the seventeenth was one of colonization, and in this work each of the nations named took a part. A century of exploration had been necessary to inform the peoples of Europe as to the character and extent of the New World, and to develop an appreciation of the best methods by which they could develop and utilize its resources to advantage. Colonization and distant trading called for requirements different from those necessary for the more restricted commerce of the period prior to the discoveries. "It needed," writes Cheyney, "the political backing of some strong national government; it needed, or was considered to need, a monopoly of trade; and it needed the capital of many men." And, it may be added, it called for high qualities of leadership. Each of the four nations which took part in this movement met these requirements in different but in characteristic fashion.

What should be done with the new lands across the ocean? In general, two answers could be given, and were given historically. The colonies could be treated as part of the mother country, separated, it is true, by long distance but nevertheless constituting a unit in a federal whole. Or they could be regarded as possessions, dependencies, to be developed for the profit of the parent state. These two views were never clearly separated and the European nations sometimes pursued one policy and sometimes the other, but the appropriation of territory became for all the first national object. The discovery of the precious metals within her territory determined for Spain her colonial policy; it became

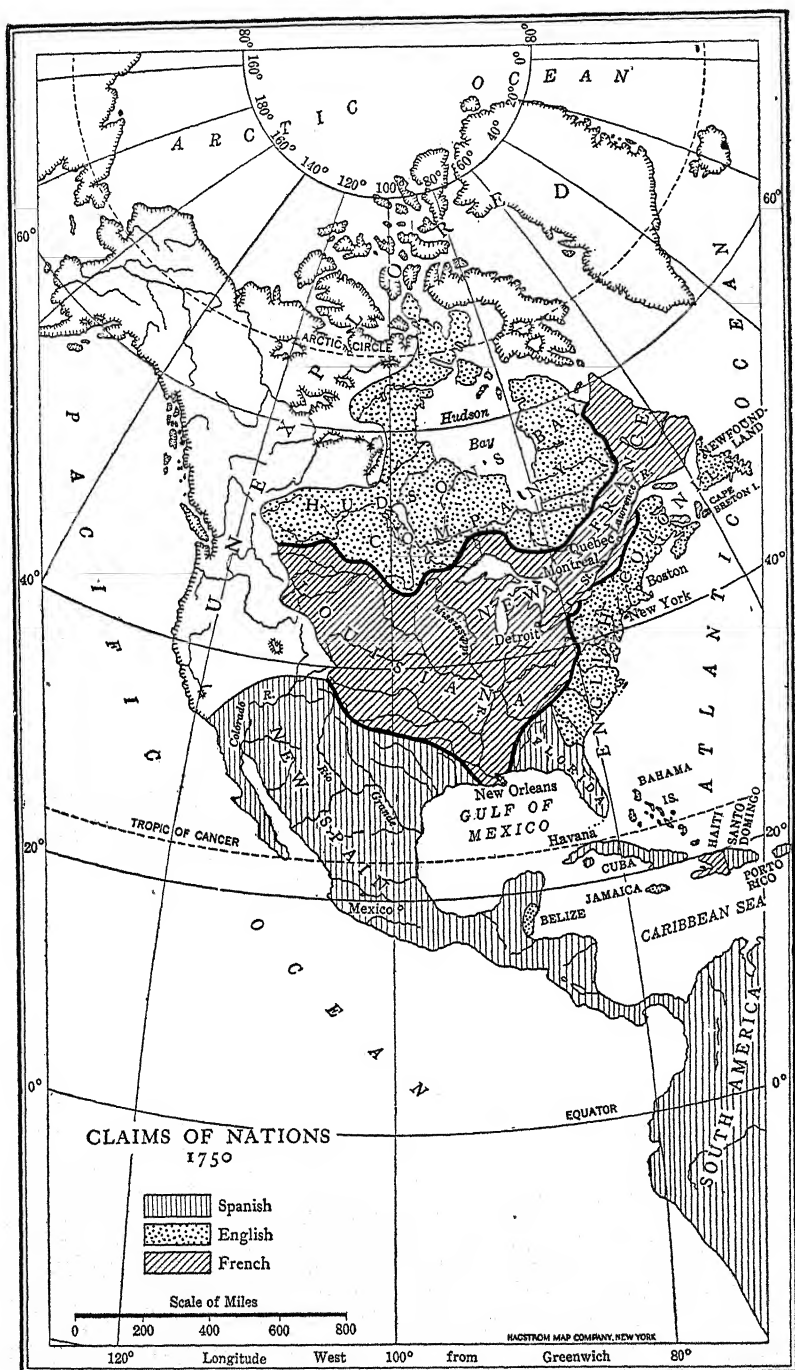
one of exploitation. And the example of Spain was not without influence upon the other European states, Holland, France, and England, which entered upon their careers of colonization a century after Spain began colonization. The actual working out of these will be best shown by taking up the colonial policies of the leading nations in some detail. The North American colonies of these countries in 1750 are shown on the map on the following page.

Colonial policy.—What is meant by “colonial policy”? It is the system of regulations and practices by means of which the parent states managed the colonies so as to make these contribute to the parents’ power and wealth. In judging the colonial policy of the European countries, it is necessary to appreciate the extent and character of the colonial world and the part which it played in the economic life of the seventeenth and eighteenth centuries. It was during this period that there occurred that imperialistic movement which brought under the sway of the five leading colonizing nations of Europe a large part of the non-European world.⁵

The possession of colonies exerted a profound influence upon the European countries, completely transforming their economic interests and activities. This becomes very clear if the character of European commerce before the great discoveries be contrasted with that which developed after this event. Before the sixteenth century there were only two important branches of world commerce—the inter-European and that between Europe and the Orient.

The new discoveries immensely quickened both these branches of commerce and also called into life two new ones. The first of these was that between Europe and the New World. The new lands across the Atlantic furnished the Old World with some of the products formerly obtained at great expense from the East, as sugar, cocoa, and dyes; or they yielded articles which were scarce or unknown, as the precious metals, furs, tobacco, and other items. The second branch of commerce, which developed later, was that between the New World and the west coast of Africa, by which

⁵ See an excellent series of maps in C. P. Lucas, *Introduction to a Historical Geography of the British Colonies* (Oxford, 1887), Vol. 1, Part II, ch. 6.



slaves, ivory, gold dust, and ostrich feathers were obtained in exchange for rum, cloth, trinkets, and other wares. Both of these were very lucrative and furnished the colonizing nations with valuable goods in wide demand.

Distant trading now became important and affected not only the character of the wares of commerce, but also the size of ships, the emphasis upon trade, the commercial policies of the nations, and their commercial and industrial development. We may conclude that colonies played an extremely important rôle in the politics, the international rivalries, and the economic life and development of the leading European countries in the seventeenth and eighteenth centuries.

Spanish colonial policy.—Chance gave to the Spanish a region which was wonderfully rich in the precious metals, but was inhabited by a race physically and politically weak. Spain consequently won her dominion by military conquest rather than by the slow subjugation of the soil. For this method the Spaniard was well fitted by character and training.

Spain was the first nation to develop a definite system of colonial control and regulation, and kept it longest in force. The colonial policy was a system of government monopoly and control which was applied to practically every department of activity. The land system which later became characteristic of Spanish America was first initiated by Columbus in the West Indies, in imitation of feudal prototypes in Europe. To each Spaniard was allotted a certain amount of the cultivated land of the Indians, which carried with it the forced labor of the inhabitants. The allotment was known as the *encomienda*, and as it was worked out involved the absolute serfdom of the natives who were forced to cultivate the land and work the mines for their Spanish overlords. After three quarters of a century of this system it was estimated by Velasco in 1574 that there were about 4000 proprietors or *encomenderos* in the New World and that these controlled an Indian population of about 5,000,000. This system of forced tribute has been defended as the only method by which the labor of the natives could be made available. Since their wants were so simple, they did

not respond to the economic stimulus of wages and worked neither so long nor so hard as the impatient Spaniard would have required.

In common with the other nations of Europe at that time Spain regarded her colonies simply as sources of wealth to the parent state, or rather to the crown, and sought to monopolize their products and their commerce by the most jealous colonial policy. In pursuance of this policy she absolutely prohibited the intercourse of foreign nations with the Spanish colonies. Not only the settlement, but even the visits of foreigners were forbidden. Even Spaniards were forbidden to visit or trade with their own colonies without royal permission. Down to 1717 Seville was the only port to which vessels could sail from the colonies; in that year Cadiz was made the privileged port and retained the monopoly until 1765, when other Spanish ports were thrown open to foreign commerce.

A similar restriction was practiced at the colonial end of the journey, where the only ports of entry for much of the time were Vera Cruz in New Spain and Cartagena (in the present state of Colombia), from which latter place they proceeded to Porto Bello on the Isthmus of Panama. After the cargoes to Spain came to contain the precious metals the development of piracy compelled the Spanish ships engaged in the colonial trade to go in fleets. Usually, two fleets were sent out annually from Spain: the "galleons," about twelve in number to Porto Bello, and the "flota" of about fifteen to Vera Cruz. These vessels carried the products of Spain, such as wines, figs, raisins, olives, cloth, iron, and quicksilver for mining, to exchange with the native wealth of the New World.

Owing to the narrow restrictions on this trade, both in point of time and place, the wants of the colonies were not only meagerly supplied, but the prices charged for Spanish goods were exorbitant while those paid for colonial wares were equally depressed. Profits of five and six hundred per cent on the original cost were not uncommon in this trade. As a result smuggling was constantly resorted to, and more and more of the trade came to be absorbed by foreign ships.

By this narrow policy the Spanish colonies were sacrificed

to the selfishness of the privileged class in Spain. The importation into the new world of European utensils and wares was almost prevented, and the colonists were forced to make for themselves the capital and consumers' goods which they might have obtained from Europe. Instead of being permitted to avail themselves of the achievements of an advanced civilization, they were thrust back into barbarism. They were, moreover, prevented from advancing by being forbidden to carry on any industries which would compete with those existing in Spain. Thus, at one time or another, the culture of saffron, hemp, tobacco, olives, and vineyards was prohibited in the colonies under severe penalties.

It is not necessary to trace the story of the Spanish colonial policy to the complete dissolution of an empire which once embraced half the world. The policy of Spain had little influence on the development of the United States, yet it illustrates vividly one extreme type of colonial policy, with which may be contrasted the commercial relations of the other colonies with their mother countries.

Dutch colonization.—The revolt of the Dutch from Spanish oppression in the Netherlands and their final establishment of independence is likely to tempt one to ascribe to the Dutch a greater love of liberty than they actually displayed in their colonial policy. They were not great colonists, for their own country afforded them a sufficient livelihood, but they were a great commercial people. The geography and physiography of the Netherlands together constituted an environment which especially favored commerce, and in this they were preëminent. To "beat the Dutch" in trade was all but impossible from the fifteenth to the seventeenth century.

The colonial expansion of the Dutch dates from 1595 when the first fleet, of private vessels, sailed to India. The formation of new enterprises and the resulting competition showed the need of coalition, so in 1602 the government founded the Dutch East India Company, to which was given the monopoly of trade and of rule from the Cape of Good Hope east to the Straits of Magellan. The policy of this

company was as narrow and illiberal as that of Spain, all trade being confined to company vessels and even independent Dutch traders being forbidden to sail east of the Cape of Good Hope. The treatment of the natives was much more cruel and despotic than that of Spain. Since the aim of the company was purely commercial—the gaining of a high rate of profit—every other consideration was subordinated to this. The islands were treated as conquests and not as colonies, and the native population was mercilessly exploited.

The Dutch West India Company, founded in 1621, was similar in purpose and organization. In order to find a shorter route to the Orient the Dutch East India Company had in 1607 sent Henry Hudson to America, where he discovered the river which bears his name. In 1614 the land between the fortieth and fiftieth parallels of north latitude was granted to certain shipowners of Amsterdam and named New Netherlands. A trading post called New Amsterdam was established on Manhattan Island, now New York City, which was bought a few years later from the natives for \$24. Meanwhile the Dutch interests had been taken over by the Dutch West India Company, which at first thought to develop the fur trade in a similar fashion to the spice trade of the East. The Company retained a monopoly of the fur trade, and required that all imports and exports be carried only on company ships.

It soon became evident, however, that encouragement must be given to colonists and a land policy was gradually developed. The first settlers were simply servants of the Company and cultivated its land. But in 1629, in order to stimulate settlement, it was enacted that any shareholder who would bring, at his own expense, fifty persons over fifteen years of age and settle them on the land should receive a grant of four miles on the seacoast or two miles on a navigable river, with no limit toward the interior. Such grantees would receive the title of *patroon* and be given certain feudal rights. Free colonists who could pay their own way to America were to be given all the land they could cultivate and exemption from taxation for ten years.

In spite of these liberal provisions the fur trade proved so attractive that little progress was made in agriculture. In 1640, accordingly, the conditions of settlement and trade were made still more liberal. The fur monopoly was given up, trade was thrown open to non-Company ships, land was granted to those who were not shareholders, and in smaller tracts, the prohibition of manufactures was removed, and other reforms were made. The Company even agreed to stock and equip farms, or "bouweries" for poorer settlers and to transport them free to New Netherlands.* It seemed as though this encouragement to colonization would build up the colony, but the injustice and cruelty of the directors Van Twiller and Kraft, and the greed of the Company, caused a reduction of the population to about one thousand in 1645.

The reasons for the failure of Dutch colonization are now apparent. The selfish trade policy of the two companies, which sacrificed every other consideration to the aim of immediate profit, was in general incompatible with true colonization or settlement by permanent home-builders. The treatment of the natives and even of their own nationals by both companies was narrow and often cruel. Little attention or capital was applied to the permanent development of the colonies and these were sacrificed, not to the interests of the mother country, but to the greed of selfish companies, which constituted an incubus such as the colonies of no other countries had to struggle against. But even if the colonial policy had been more enlightened it is doubtful if the Dutch could have developed a permanent colony in North America at the mouth of the Hudson River. By the middle of the seventeenth century the commercial and maritime preëminence of the Dutch had yielded to the English and they were unable to resist their more powerful neighbor.

French colonization.—The work of exploiting and colonizing the territory in the New World was entrusted by the French to commercial companies from 1598, when the first company was formed, until 1663. Of these the most important was the one founded by Richelieu in 1628 along the lines laid down by Champlain and known as the Company of

* See Bogart and Thompson, *Readings*, p. 11.

the One Hundred Associates of New France.⁶ After the end of the Hundred Associates the administration of the colonies was taken over by the crown, and for the next one hundred years an even more despotic and centralized government existed. The combination of a seigniorial system of land holding, of a despotic government administered from France, and of paternalism, was ill adapted to the work of colonization in an undeveloped country. The petty restrictions on agriculture and industry, the government control of trade, and the constant interference with private initiative prevented the economic development of New France.

French methods of colonization in North America were, however, determined not merely by governmental policy ; they were influenced also by the economic environment and opportunities in the colonies. Agriculture did not thrive in the cold, inhospitable climate of the north, whose forests and streams were better suited to the fur trade. Moreover, the European demand for furs made this the most profitable occupation. The energies of the colonists were accordingly devoted to trading with the Indians for furs ; this led to far-reaching exploration of the interior of the continent, not to establish settlements but to tap new sources of Indian trade. Instead of building homes they established forts and trading posts at strategic points where river routes and land routes crossed ; instead of sending out colonists with their families, they sent soldiers and traders.

The fur trade assumed in New France the rôle played by the spice trade in the Dutch and by the precious metals in the Spanish colonies ; it determined the direction of the economic development. Since the continuance of the fur trade depended upon keeping the country a wilderness, the spread of agricultural settlements was not encouraged.

In this fact is to be found the principal reason for the friendly attitude of the Indians toward the French, and their frequent hostility toward the English. The French fur traders did not disturb the existing Indian economy, but on the contrary brought in desirable goods such as iron pots, cloth, hatchets, and even rum and firearms. The English

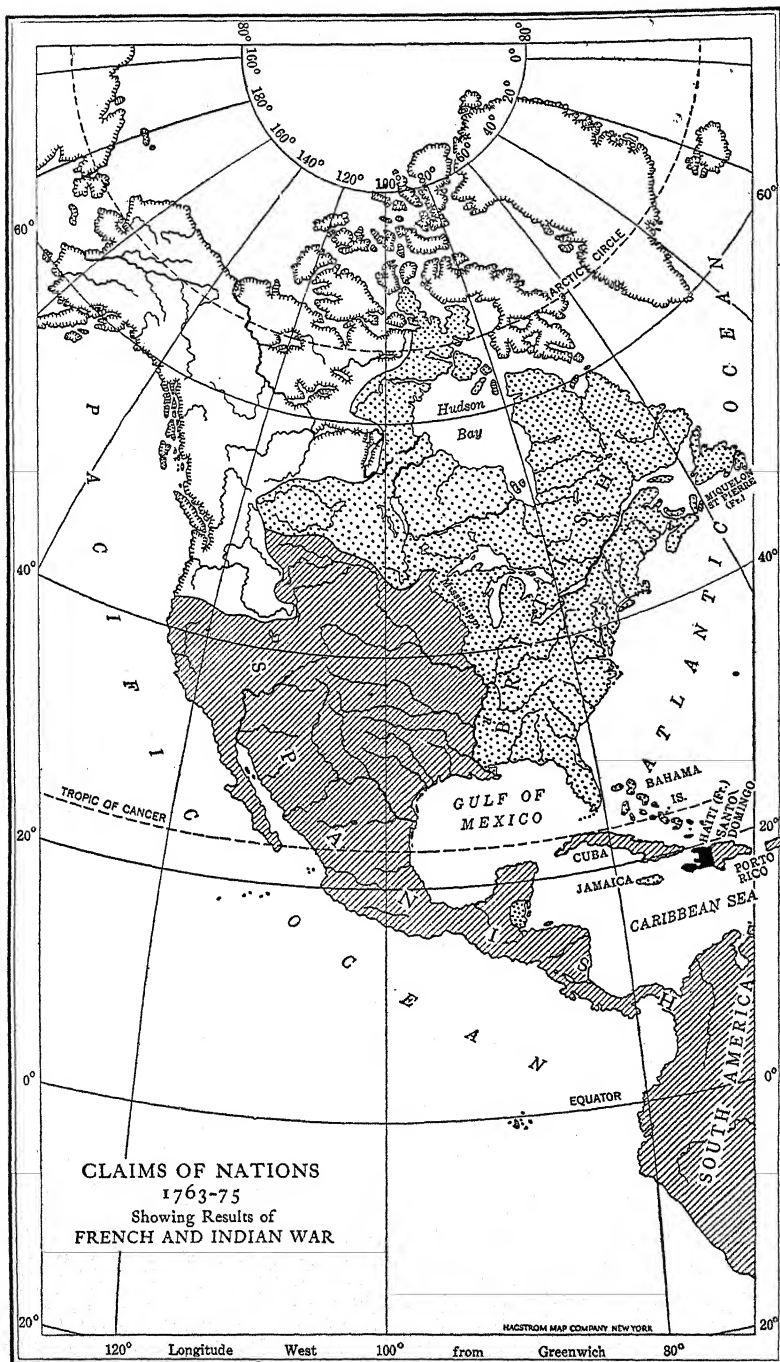
⁶ A good summary of its powers is given by E. P. Cheyney, *European Background of American History*, 157-160.

farmer, however, cut down the forests, drove away the game, and appropriated the land. There could be peace with the French, but with the English only war. Deprived of his food supply and of the only articles he could barter, the Indian must fight or starve. Economic pressure rather than conciliatory policy or fair treatment determined the relations between the white man and the Indian.

French colonization suffered from the characteristic faults of the times: inefficiency of organization, monopolistic control, and lack of understanding of the difficulties involved. There were special weaknesses, however, which were peculiar to the French, such as the artificial character of the seigniorial land grants, the attempt to import into the new world the class distinctions of the old, and the wide dispersion of a scanty population under conditions which caused them to revert almost to barbarism. Especially serious was the policy of France at home, which dissipated her resources in continental wars and left the colonies without the necessary capital and assistance. Although the French people bore heavy burdens on account of the colonies, these did not show commensurate increase in wealth or military strength. They were unable therefore to resist the encroachments of the English, when the interests of the two nations clashed.

The mastery of the English.—Last of the important European colonizing countries England entered the field. Her rise to power was an event full of potentialities. Of the four nations which struggled for supremacy in the territory now included in the United States, the English was the only one which succeeded in maintaining a permanent foothold. The extent of the English colonies in North America after 1756 are shown on the map on page 25. What were the reasons which enabled the latest comer to succeed where the others made such an indifferent showing? Partly responsible, at least, was the incapacity of her rivals.

But the causes were not merely negative; there were also positive factors in English institutions and character which fitted her peculiarly for the work of colonization as it was carried on in the seventeenth century. Colonization called for leadership and organization, and it also required capital in considerable amounts and labor of a superior type. In



all these respects England was probably superior to any contemporary nation in Europe. Although other nations had pioneered the work of discovery and exploration and had entered upon the highly profitable task of exploiting the treasures of both the Old World to the east and the New World in the west before England ventured far from her secure insular position, yet when she did bestir herself she entered boldly upon her career of maritime supremacy.

The expansive forces of the Commercial Revolution pointed the way to imperial development, for which motives were not lacking—military, political, and above all economic. The Elizabethan seamen who defeated the Spanish Armada in 1588, and later looted Spanish treasure ships and carried on the slave trade, had no thought of colonies, but they stirred the popular imagination and aroused great interest in maritime discovery and adventure. Close on their heels followed the merchants, whose trade was not very different at times from the buccaneering which preceded, but which brought in enormous profits and formed the basis of those capital accumulations by which colonization was in part financed. Industry as well as commerce was beginning to be better organized and a new group of hard-headed profit-seeking merchants and even landlords was being created who knew how to organize and finance business ventures.

✓ By the seventeenth century England had attained an advanced stage of economic development marked by capitalistic organization. There existed a commercial class with economic strength and initiative, and free capital and labor were available for new enterprises. When the work of colonization was begun by Englishmen, it was undertaken by these men as a civilian enterprise for the sake of profit.

Capital was also available in considerable amounts for the first time in the history of the country. The profits from trade and loot have already been mentioned, but sheep-raising and other home enterprises were also proving lucrative, and capital was accumulating. Indications of this fact are found in the legalization of usury, and the development of banking by the goldsmiths. Capitalists were seeking new forms of investment, and turned eagerly and naturally to commercial ventures with distant lands. As a sign both of

the amount of capital and the willingness to invest in such enterprises may be mentioned the fact that £30,000 was subscribed in 1599 for an expedition to the East Indies, and it is noteworthy that sixty of these subscribers afterwards became interested in the Virginia Company.

But after all the most important factor in the work of colonization was the human element, and in this respect England enjoyed the greatest advantage. "It is a fact of deep significance in the history of migration," says Beard,⁷ "that serfdom practically disappeared in England more than two hundred years before its last legal traces were removed from the Continent." At the same time agrarian changes, such as enclosures for sheep-raising, were displacing these free men from their accustomed work and turning them loose as beggars or sending them into the towns. "Of all European countries, England alone had an abundance of men and women accustomed to hard labor in the fields and yet cut loose from bondage to the soil. It was a dubious freedom which they enjoyed—so dubious that it prepared them for migration to the New World in spite of all the hazards."

Into the political and religious background of the period of colonization it is not necessary to go, except to note that in no country was there greater political freedom, and, during most of the time, greater religious toleration than in England. The governing class was, moreover, interested in mercantile affairs and eager to promote them. In short, the seed of English colonization was nurtured in congenial soil.

Commercial companies.—With the growth of colonies and of distant trading to them or to other far-away countries it became necessary to organize commerce by closer association among the merchants. The device which was developed for this purpose was the commercial company. Individual merchants had held their own in the local or municipal commerce of the fourteenth and fifteenth centuries, but for the distant trading of the sixteenth and seventeenth centuries they lacked both capital and power. For trading and colonization two kinds of commercial companies were developed. The first of these was known as a "regulated company," and

⁷ *Rise of American Civilization*, I, 23.

was a loose association of individual traders, each of whom joined the company by paying an entrance fee, much like the members of a modern stock exchange, and each of whom traded with his own capital on his own account. Such a regulated company achieved some of the purposes just enumerated, but not satisfactorily, for its control over its members was slight. If the principle of association or co-operation in distant trading was to be effectively applied it was clear that some closer form of union must be devised. This was achieved in the joint stock company in which the members pooled their capital, entrusting its management to a small group of directors.

As an investment by which many colonies were actually founded in North America these companies were important in American history. The business of founding a settlement in the New World was both difficult and expensive and beyond the means of the ordinary individuals. To travel so far from home and to transport the necessary supplies and equipment called for a considerable initial investment. Since the country was undeveloped the colonists must take with them clothing, household utensils, and furniture, farm implements and tools of all sorts, domestic animals, and even, in the early days, sufficient food to tide them over the initial period until they could raise their own crops. The large investment of capital required for these purposes was furnished by the chartered company, but so remote or illusory were the profits that few of the companies repaid the original investment to the stockholders, and most of them failed.

It was finally realized that as an investment the founding of a colony was unlikely to yield any financial return to the promoters at home. The profits were indirect and remote economic advantages.

The English company system was no more successful as a colonizing agency than had been that of Holland or France. The capital was always inadequate and the returns were too remote. Management by distant directors was impracticable. The system of land tenure was not suited to a new country where land was plentiful and individual initiative was the key to success. After 1600 the English colonies in America were established mainly by groups of merchants or promoters,

organized in joint stock companies, who remained in England and founded trading posts or settlements in distant lands for their own profit. In accordance with prevailing political practice they obtained a monopoly within the district assigned them, and in their hands was usually left the government of the settlements. The English colonies in North America are shown on the map on page 29.

Jamestown.—The first permanent English settlement in America was authorized by the charter of 1606, which created two companies, one made up of "Knights, Gentlemen, Merchants, and other Adventurers" coming mostly from London, and the other composed of a similar group having its center in Plymouth. These two groups comprised seasoned navigators, merchants interested in foreign trade, and some persons of wealth and influence. They were known respectively as the London and Plymouth Companies.

The former settled Jamestown, the first permanent English settlement in America.

The instructions which the company sent with the colonists directed them to cultivate the soil, to search for a passage to India, to look for gold mines, and to develop trade with the Indians.

For the first two years of its existence the venture was a complete failure whether regarded as a colony or as a business enterprise, but in 1609 it was reorganized and was given a definite grant of land of four hundred miles of coast with the land behind "throughout from sea to sea, west and northwest." The colony was now treated by the stockholders in London as a true plantation and steps were taken to manage it as an investment proposition. The methods followed are well illustrated by the Company's land policy. For each £12.10s. paid in the stockholder was entitled to one hundred acres of land, while an equal amount was given to every adventurer who went to Virginia in person, and the same for each laborer transported to the colony by a stockholder. For those colonists who were transported to the colony at Company expense a different arrangement was made. These were to be furnished with supplies of clothing, furniture, tools, and arms, and in return were to work for seven years—extended under subsequent charters to

twelve years—on the Company's land; all proceeds were to be put into a common store from which the needs of the workers were to be met and the remainder distributed to the stockholders. The lack of incentive under this plan and the difficulty of supervision made it a miserable failure.

By 1619 the system was discontinued and the land came into the ownership of individual settlers. The verdict passed by Smith upon the inefficiency of this method of a common store has not been reversed by subsequent experience: "When our people were fed out of the common store, and laboured jointly together, glad was he (who) could slip from his labour or slumber over his task he cared not how; nay, the most honest among them would hardly take so much true pains in a week, as now for themselves they will do in a day; neither cared they for the increase, presuming that howsoever the harvest prospered, the general store must maintain them, so that we reaped not so much corn from the labour of thirty, as now three or four do provide for themselves."

Plymouth.—The next permanent English settlement in North America was made by the Pilgrims at Plymouth. This was a joint stock company to which seventy London merchants contributed their capital of £7000 and the colonists their labour. Each emigrant over sixteen who "adventured" himself was credited with one share, valued at £10; two children between ten and sixteen were counted as the equivalent of one adult. For contributions of money or goods the colonists were credited with additional shares. ✓ The bulk of the capital was, however, contributed by the London merchants as an investment. So far as the motives of the subscribers to the capital of this joint stock company were concerned, there seems to have been little difference between these London merchants and those who had fourteen years earlier financed the Virginia Company. They secured their risky venture by an agreement on the part of the whole body of colonists to work for the company for seven years and to put their produce into a common store from which they were to receive their food and clothing. At the end of ✓ the seven-year period "ye capital and profits, viz., the houses, lands, goods and chatles, be equally divided betwixte ye adventurers, and planters; wch done, every man shall be free

from other of them of any debt or detriment concerning this adventure."⁸

It will be seen that this was a more generous arrangement than that which the Virginia Company had made with its laborers, who were mere indentured servants and received nothing at the end of the seven years except their freedom. The Plymouth colonists on the other hand were stockholders along with the capitalists and divided with them equally the profits of the venture. Quite as important, from a political standpoint, the colonists were to elect their own officials and direct their own efforts.

The proprietary colonies.—While Virginia was developing as a royal province and the charter colonies of New England were being planted, a different experiment in colonization was tried in the intervening territory. This was by grants of land to private individuals. A single individual could manage affairs more easily than a corporation and seems to have been preferred by Charles I and Charles II as an agent for colonizing purposes. Maryland, New York, New Jersey, Pennsylvania, the Carolinas, and Georgia were all founded by proprietors to whom the king made grants of land, usually as a reward for political or personal services. The proprietor was generally a man of large means who undertook the planting of a colony for profit, as one might establish a distant estate or plantation. These estates were usually aristocratic or feudal in type, although this was modified and democratized by the environment and the economic and social forces of a new country. The proprietor often lived part of the time in England and part of the time in the territory which had been granted him.

Like the chartered companies, the proprietor furnished the capital for the work of colonization, and expected to obtain his profits from the sale of the land to settlers, from quitrents, and other sources such as fees, a share in any precious metals that might be discovered, and import duties. In order to obtain settlers, they issued prospectuses and attracted immigration by methods made familiar to us today by real estate

⁸ Art. 5 of "Articles of Agreement of Plymouth Plantation" in H. Bradford's *History of the Plymouth Plantation*, p. 57. See also Bogart and Thompson, *Readings in the Economic History of the United States*, 3.

companies. In spite of liberal terms of settlement the colonists quarreled with the proprietors, and all the latter finally relinquished their claims so that their colonies became royal provinces. It is not necessary to describe the settlement of the other original thirteen colonies on the narrow strip of English soil in North America, for their history is familiar and offers no new features of economic interest. The work of colonization was slow and arduous, and its significance became apparent only after the task was completed.

The West Indies.—In a half circle at the eastern end of the Caribbean Sea lies the group of islands known as the Lesser Antilles. Of these the English occupied St. Christopher and Barbados, at the two extremes, in 1625; a few years later they settled Nevis, Antigua and other small islands in this group. The Bahama Islands were colonized in 1646, and in 1655 Jamaica was conquered from the Spanish. Considerable English capital was invested in sugar and tobacco growing in these islands, and by many English merchants they were esteemed more highly than the northern colonies. Their commercial relations with the continental colonies, moreover, were extremely close, and a profitable trade existed between them. It would be a mistake to think of the thirteen continental English colonies as constituting either an economic or a political unit during the seventeenth and the first half of the eighteenth centuries, or as separated from the island colonies. A strong bond united both the fishing stations of Newfoundland and the sugar islands of the West Indies to the continental colonies, and the economic development of the latter cannot be traced apart from their relations with the former.

The growth of solidarity.—For a hundred years the human seeds of colonization had been flung, more or less at random, upon the American continent. In some places they had found congenial soil and had flourished; in others the seed had found an inhospitable environment and had shriveled. On the whole, however, the Atlantic coast region had proved a fertile colonial seed bed. As one approaches the eastern coast of North America, it is possible at almost any point to find an entrance into safe harbors, deep tidal

rivers or protected sounds and bays, in striking contrast with the closed wall of the Pacific coast. The many navigable rivers afforded easy access for a considerable distance into the interior until the fall line was reached, and only in New England was this so near the coast as to confine settlement to the shore line. The strip of tidewater land varied in width from fifty miles in New England to two hundred and fifty miles in the Carolinas.

The contracted area and the stony nature of the land, which cost an infinite amount of labor to clear, held the New England colonists to their first settlements. Such an environment compelled small permanent farms, but these gave such small profits that the settlers looked to auxiliary occupations like fishing or trading to make a living. Farther south the larger available areas of fertile land invited the cultivation of profitable staple crops by exhausting extensive methods. This resulted in wide dispersion of the population and also continuous change of location. The river systems and peninsulas tended to separate the various colonists and to deepen individual differences, but the ocean constituted a common highway which bound them together.

The effect of the Appalachian mountain chain, which constituted a difficult barrier and which was moreover rendered all but impassable by a thick forest growth, was to hem the population in and hold them to the stretch of territory between the mountains and the seacoast. For the first one hundred and fifty years of colonial history the English settlers were thus held together, and were also protected at most points by natural barriers against the Indians and the French. For the development of solidarity and of a spirit of unity the geographical conditions of settlement were of great importance. The unanimity with which the colonists acted at the outbreak of the Revolution is explicable in large part by reference to the physical environment in which they had developed.

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CHAPTER II

COLONIAL AGRICULTURE

The natural resources.—The accounts of the explorers and the early colonists of North America are filled with descriptions of rich natural resources, which seemed to them inexhaustible. These observers were deeply impressed with the dense forests, teeming with game and bird life, the rivers filled with fish “so that a man might pass upon their backs dry-shod from one bank to the other,” and other products of a fertile country whose riches the native Indians had barely scratched. If the colonists were to turn the natural wealth of a new country to advantage, if they were to utilize their superiority in this one respect in trade with the older European countries, it was evident that they must devote themselves to the exploitation of the natural resources.

The Spanish discovered the precious metals, which were in universal demand, and devoted all their energies to their extraction. But in the English colonies there was little mineral wealth. Bog iron ores were early found in eastern Massachusetts and at a few places along the New Jersey coast, and rock ores were worked in Connecticut, New York, northern New Jersey, and eastern Pennsylvania, but not until the middle of the eighteenth century were they developed extensively. Some mines of lead and copper were discovered, but they yielded little. No precious metals were found in the thirteen colonies during the colonial period, and coal was not discovered until the end of the eighteenth century. So far as mineral resources were concerned they contributed little to the prosperity of the colonists.

Far different was the situation in respect of the other natural resources. The articles most immediately available were fish and furs and forest products, and to these the first colonists turned even before they began a settled agriculture. With the clearing of the land and the beginning of a more

settled life, agricultural products began to be raised from the soil. But in this process the same exploitative methods were used as characterized the mining of the precious metals, the ruthless destruction of the forest, or the slaughter of the fur-bearing animals. In every case a quick return was desired at the smallest possible expenditure of labor and capital, and this required the prodigal and wasteful use of the agent which was being developed. This is the key to an understanding of the agricultural history of the colonial period, and indeed of all our economic life as a nation. Land was the most plentiful resource in the colonies and it was accordingly used extravagantly ; treated almost as a free good, it was spent freely.

The first economic problem which presented itself to the colonists in their new environment was that of so utilizing the natural resources of the regions in which they settled as to obtain a living. In doing this they reverted first to activities resembling those of primitive peoples in the hunting or collection stage of evolution. Game and fish, wild fruits, berries, nuts, and other products of nature were plentiful, and could be obtained with a minimum of effort. It was therefore not difficult to support life in a rude way ; this the Indians had successfully managed even with primitive implements and weapons. But the early settlers knew little of hunting and fishing and even in the midst of this seeming plenty often faced starvation. After an initial painful period of adjustment in all the colonies they were able to raise sufficient food and agricultural products for their own needs and in time to produce an excess for export.

Such a transition was not an easy one, however, for it meant the sacrifice of old habits by an especially conservative group. The first settlers faced starvation in this land of potential plenty and only gradually did they learn the necessary compromise between the agriculture of the Old World and that of the New.

In New England a sterile soil and severe climate diverted a measure of their energies into fishing, lumbering, ship-building, and trade, and in some of the colonies fur-trading was found to be more lucrative than farming. But in all of them agriculture was the most necessary and important in-

dustry. Franklin declared that nine-tenths of the New Englanders were occupied with agriculture, and the proportion was even larger in the other colonies. Not even legislation and the offer of bounties could divert the Virginians from the production of tobacco to manufactures. The colonists understood their own interests better than did the distant directors of a chartered company. In working out this experiment of colonization the settlers developed new methods and types of agriculture, which were a resultant of the prevailing European practices that they brought with them and of the Indian methods which they learned at first hand.

English agriculture.—The colonists brought with them a general equipment of knowledge of crops, of implements, and of methods to which they had been accustomed in their homes, and this knowledge they first sought to apply to the new conditions. The principal cultivated plants of Europe, and more particularly of England, at the beginning of the seventeenth century were few: of grains there were barley, oats, rye, and wheat; of vegetables, beans, cabbages, onions, peas, and vetches; of fruits, apples, plums, pears, and several kinds of berries. The list of tools was still shorter: those drawn by domestic animals were the plow, harrow, and cart; of hand implements there were the hoe, rake, spade, and sickle, essentially the same as had been used by the Egyptians four thousand years earlier; the ax, the flail, the hand fan, completed the list.

The methods and practices of agriculture were equally primitive: the two-field or three-field system was in general use; according to the latter one field would be planted with wheat, rye, or other crop sowed in the fall and harvested the next summer, the second with barley, oats, peas, or similar crops planted in the spring and harvested in the fall, while the third field would lie fallow. By rotating the fields each was given a chance to recuperate. Fertilizing was done by turning the cattle into the stubble after the crops had been harvested. No breeding of cattle or other livestock was possible, as they were all herded together on common pasture. The lack of winter food made it customary to slaughter most of the increase in the fall and salt down the meat for winter use.

But simultaneously with the settlement of America there began improvements in the agriculture of England through the introduction of the turnip and other root crops and of the clovers and artificial grasses. These made possible a more scientific rotation of crops and the abandonment of the wasteful two-field and three-field system ; and it also provided a winter food for livestock and made it possible to carry them through the winter. Toward the end of the eighteenth century the enclosure movement in England still further stimulated agricultural improvements, and better implements, better methods and technique, and more scientific breeding were all introduced. Emigrants to America during the colonial period carried with them a knowledge of the practices in use at the particular time that they left home.

Indian agriculture.—The colonists were also the beneficiaries of the experience of the Indians, from whom they quickly learned the best methods of raising the native crops, as well as economical methods of clearing and preparing the land for cultivation. Because of the lack of domesticable animals in America the Indians never passed through the pastoral stage. In the Great Plains area and in the north they lived chiefly by hunting ; but east of the Mississippi most of the tribes had settled down to a more or less sedentary agricultural life with permanent villages and ordered peaceful relations with other tribes, interrupted only occasionally by war. As one moved south and the climate became more genial, less dependence was placed upon game and natural products and more upon the results of the artificial propagation of vegetable products, until permanent agriculture was relied upon almost entirely for means of subsistence. In the southern part of what is now the United States probably three-fourths of the Indian diet was vegetal. It was a fortunate circumstance that the early colonial settlements were made in regions of relatively high native culture, involving particularly the cultivation and use of maize, sweet potatoes, and tobacco.

In order to obtain a correct notion of primitive agriculture, the idea of a modern farm, with its cleared and well-planted fields, must be abandoned and a very different picture presented. With their primitive tools of wood or bone or stone

and without the aid of domesticated animals, the Indians could not do more than effect a partial clearing in the forest. This they did by killing the standing trees, either by girdling them with grooved stone axes or by building fires around their bases. The underbrush was then cleared or burned off, and the maize or corn and other seeds planted amid the blackened trunks. Such a field presented a picture of desolation rather than of orderly agriculture. Gradually, however, the trees fell, when they were burned into suitable lengths, rolled into a heap, and reduced to ashes; in this way the land was cleared with a minimum of labor. It was estimated that an industrious Indian woman could burn off as many dry fallen trees in a day as a white man could cut with an ax in two or three days. So thorough was this method that fields were observed by the first European settlers in which not even the trace of a stump could be perceived.¹ Since no fertilizer was used or crop rotation practiced, the fertility of the soil, great though it originally was, became exhausted and a new clearing had to be made. These clearings were later of inestimable value to the colonists, and it was on such a field that the Pilgrims planted their first corn.

Native plants.—The list of plants native to the country now comprised in the United States and cultivated by the Indians is a comparatively long one, and includes many food crops in general use today and some which are not. Most important was maize, but the following were also generally grown: beans² of most edible varieties such as kidney beans, scarlet runner, and lima beans, sweet potatoes, squashes (practically all varieties), pumpkins, watermelons, sunflowers (whose seeds were used for bread and also for oil), and Jerusalem artichokes. The white potato, though a native of Peru, was never known to the North American Indians. This and other native American plants, as peanuts from Brazil and tomatoes and garden peppers from Central America, seem to have been introduced into Europe by the Spaniards, and from Europe into North America. Indeed many

¹ C. C. Jones, *Antiquities of the Southern Indians*, 299.

² Early travelers sometimes mistook these for peas, but the latter were probably unknown to the Indians, being first introduced by Europeans.

native American domestic plants were widely distributed, not only by the Spanish, but also by the Portuguese, French, and others. Tobacco, though not a food plant, was highly esteemed by the natives and was later of great economic importance to the colonists. It was used by the Indians not merely for smoking but also for medicinal purposes, and entered largely into their religious and other ceremonial rites. Gourds of many kinds were grown and were used as containers for water, seeds, and other things, as dippers and drinking vessels, mixing bowls, and as ornaments.

The following table gives a partial list of plants of American origin:³

PLANTS OF AMERICAN ORIGIN

	<i>Very ancient cultivation in America</i>	<i>Cultivated before discovery of America, but of no great antiquity.</i>	<i>Cultivated only since discovery of America.</i>
Cultivated for underground parts	Sweet potato	Cassava Jerusalem artichoke Potato Onion	
Cultivated for stem and leaves	Tobacco	American, aloe Grasses	Quinine Orchard grass
Cultivated for fruit		Pumpkin Squash Gourds Watermelon Red pepper Tomato Pineapple	Strawberry Blackberry Cranberry Raspberry Currant (black) Grape Plum
Cultivated for seeds	Maize	Beans (many kinds) Barbados cotton Peanut Sunflower	

The lack of a variety of cereals was made up by the possession of the most valuable of them all, maize or Indian corn. Its chief value lay not so much in its large yield, as

³ Based on A. Candolle, *Origin of Cultivated Plants*, 444, and G. K. Holmes, "Aboriginal Agriculture: the American Indians," in L. H. Bailey's *Cyclopedia of American Agriculture*, IV, 25-27.

in its pre-eminent adaptability to a primitive agriculture. It was not necessary to clear or plow the soil, but the seed could be dropped into a rudely made scratch or hole in the ground, amid the stumps, and it then took care of itself. Its large size limited the number of plants which could come to maturity in a given space, and consequently little tillage was necessary; in the case of the smaller cereals, on the other hand, it is necessary to till the entire surface of the field. Corn kept the ground clear of weeds because of its tall foliage. When ripe, maize did not have to be harvested immediately, as do other cereals, but could hang for weeks upon the stalk until it was convenient to gather it. The harvesting, finally, could be done by hand without cutting the stalk, and when harvested it did not have to be threshed or winnowed.

Indian agricultural methods.—At the time of the discovery of America the cultivation of maize extended from the Great Lakes in the north to the Plate River in the south, and formed the staple crop of all those tribes in North America which practiced agriculture. Although the methods varied somewhat in different sections of the country a general description of these may be given. As already stated, the land was first cleared of trees in a rude manner. Since the Indian had no domestic animals suitable for draft he could not have used a plow if he had owned one. With a kind of mattock or hoe, made by tying a chipped stone, a large clam shell, or the shoulder blade or horn of a deer or other animal to a stick, the men broke up and made even the surface of the ground. The weeds and corn stubble were dug up and allowed to dry, after which they were raked into small heaps and burned. Following the men came the women, who, with the aid of planting sticks, made holes in the newly prepared earth in rows about four feet apart each way. In each of these holes from four to six kernels of corn and two or three beans were planted one inch apart, and were then covered with earth. Frequently beans and squashes were planted between the rows of corn. A little later the growing plants were hilled.

It will be noticed that practically every crop which the Indians grew required intertillage, whereas in England at

the time of the discovery field crops were usually seeded broadcast. Indian tillage therefore differed materially from contemporary European methods. "One peculiarity of Indian tillage needs especial emphasis," says Carrier.⁴ "In this common method of hill planting the soil in the intervening spaces was not broken. The hills were from 12 to 20 or more inches in diameter and the soil in these hills was all that was stirred or loosened. All weeds were kept cut or pulled out. As the corn plants grew some loose dirt was scraped around them. These hills were used over and over in successive seasons and became quite sizable mounds, remains of which have persisted in some localities until modern times." No fertilizers seem to have been used except in New York and New England, where the Indians followed the practice of dropping a fish into the hill where they planted their corn. In spite of the rude tillage a large yield was obtained because of the fertility of the soil. Hariot estimated that the average yield per acre in Virginia was, by London measure, 200 bushels of maize, peas, beans, and pumpkins, while Smith reported for New England about 45 bushels to the acre of corn alone.

When the corn was ready for harvesting, all the available members of the village would repair to the corn fields to gather the ears, which were placed in baskets and carried to the village. The seed for the next year was selected from those stalks which produced the largest number of ears, and these were hung in the wigwam; a certain seed selection thus took place. The remaining ears were dried in the husks, which were often merely turned back and braided together, and the strings of ears were then hung up to dry.

Colonial agriculture.—Those who are conversant with present methods of corn production will recognize in Indian maize culture as just described much that is familiar even after the lapse of three hundred years. When the early settlers became acquainted with the virtues of maize, they not only adopted it as a food but they appropriated bodily the Indian methods of preparing the ground, planting the seed, hilling and cultivating the growing crop, harvesting and husking the ripe grain, shelling the dried corn, and

⁴ Lyman Carrier, *The Beginnings of Agriculture in America*, 95.

finally of preparing it in many ways as food for consumption, even adopting the Indian names, as hominy, succotash, and others. In the case of maple sugar and of tobacco there was a similar appropriation of Indian methods and practices. It is clear that in regard to these important crops our ancestors were greatly influenced by the aboriginal model which they saw, and this may be accepted as evidence both of the progress achieved by the Indians and the good sense of the early settlers in recognizing the excellence of these methods. Culture usually proceeds from the more civilized to the less civilized, but in these instances there was a distinct transmission of culture from the lower to the higher.⁵ The Indian farmers, ignorant though they were of scientific principles of propagation, succeeded in establishing many useful variations in their food plants. They carried such plants as maize, beans, and squashes very far from the original wild types, and gave them a wider range in climatic adaptation than any comparable plants of the Old World. Carrier estimates that "our agriculture today is at least one-third native American."⁶

It will be observed that the Indian method of production was wasteful and exhaustive, for there was no crop rotation nor manuring and when the fertility of the land was exhausted no effort was made to restore the lost fertility, but a fresh piece of land was cleared and cropped in the same manner. The labor of clearing the land was, however, severe, for to hew out of the primeval forest an open acre for planting required fully a month's work on the part of a man and his family. Hence, there was cleared just so much as was required, and the cleared piece was used until exhausted before resort was had to a new tract. When this lost its fertility, more land was made ready. By such a tedious process, piece by piece and under pressure, much of the land in the coastal region was prepared for agriculture.

Colonial agriculture extensive.—Had the land been limited in extent the colonists might have found it necessary to resort to the practice of fallowing, or the later methods of

⁵ Clark Wissler, "Aboriginal Maize Culture as a Typical Culture-Complex," *The American Journal of Sociology*, XXI, 656.

⁶ *Op. cit.*, 41.

rotating grain crops with clover and turnips, as was done in England, or of fertilizing ; but the vast extent of available land made them prefer the more careless but immediately profitable methods of the Indians. The methods followed, whether brought from Europe or borrowed from the Indians, were based upon tradition and custom, in which superstition played an important rôle.

Rotation of crops was unknown and manures were but little used. The Swedish botanist Kalm, writing of New Jersey in 1748, said : "This easy method of getting a rich crop has spoiled the English and other European inhabitants, and induced them to adopt the same method of agriculture which the Indians make use of ; that is, to sow uncultivated grounds, as long as they will produce a crop without manuring, but to turn them into pastures as soon as they can bear no more, and to take in hand new spots of ground, covered since time immemorial with woods. This is likewise the reason why agriculture is so imperfect here. . . In a word, the corn-fields, the meadows, the forests, the cattle, etc., are treated with great carelessness by the inhabitants."

Contemporary critics invariably directed their criticism against what they considered the wasteful and unintelligent methods of agriculture practiced in all the colonies. The author of *American Husbandry*, writing in 1775, censured severely the general practice of planting the same crop year after year and advised rotation of crops to prevent the exhaustion of the land : "they have not a just idea of the importance of throwing their lands into a proper arrangement, so that one may be a preparation for another." He complained of the lack of fences to keep out the cattle, of poor preparation of the land—"worse ploughing is nowhere to be seen"—of the insufficient and slovenly tillage—"many of their corn-fields are so full of weeds that in some it is difficult to know what is the crop"—and of the poorness of their implements.

Was this criticism justified? In Europe during the seventeenth and eighteenth centuries, under the pressure of a growing population, farmers had learned new methods of *intensive* agriculture, and had introduced enclosure, manures, deep root crops and a more scientific rotation, and other

improvements. During this same period the American farmers had learned from the Indians the economy of *extensive* agriculture, which they found both easier and cheaper.

It must be remembered that the soil was extremely rich and did not require very careful tillage to yield large returns. And when the productiveness of the soil was reduced it was cheaper to take up fresh land, of which there were practically unlimited quantities, than to restore the exhausted qualities. That is, with the one-crop system, they practiced rotation of fields instead of rotation of crops. In the colonies land was the cheapest factor of production and it was used prodigally; labor, on the other hand, was the scarcest and most expensive factor and everything possible was done to economize it. Here there was more land than the people could use, while farm laborers were scarce and often could not be hired at any wage. From the standpoint of the colonial farmer this was good agriculture, but it shocked the visitor from abroad who was accustomed to an agriculture based upon dear land and cheap labor.

It was not possible to apply contemporary European standards to the totally different conditions in colonial America, any more than it is possible to apply our own of today. This was recognized by Jared Eliot, a sagacious contemporary writer, who saw that the efforts of the first colonists to clear the ground literally of every stump and sapling was the misapplication of energy, which was needed for other more urgent tasks. Still it must be admitted that this method of "land butchery," profitable though it may have been at the time, led to bad agricultural habits and robbed later generations of their wealth in the soil. We may conclude that the colonists solved their immediate problem, that of clearing the land and raising the necessary food supplies, at the smallest cost to themselves, but in so doing they sacrificed the interests of their descendants. "The American planters and farmers," shrewdly commented the author of *American Husbandry*, "are the greatest slovens in Christendom; their eyes are fixed upon the present gain, and they are blind to futurity."

Problems of selection and adaptation.—In solving this problem they were, however, met by many others. It was

not enough to adopt the Indian practices and crops; they must also ascertain what plants and animals from the Old World would thrive in the new environment. They came to a country whose climate and soil were unfamiliar to them. The various qualities of the native plants with which they were confronted had to be determined by experience. Seeds and plants from every part of Europe and even from Asia and the West Indies, which were brought here by sailors, had first to be tried in each colony before it was known in what soil or clime they would best flourish.

For a century and a half this process of experimentation, adaptation, acclimatization, and selection continued in all the American colonies, and so successfully that in the next one hundred years only a single commercially new plant, namely sorghum, was introduced into the United States, and that about the middle of the nineteenth century. Hemp, indigo, rice, cotton, madder, millet, spelt, lentils, lucerne, sainfoin, and other products, were tried and failed in New England. In the southern colonies wine and silk culture, and such products as ginger, lemons, olives, almonds, and spices were tried, but were found unsuited to that climate. On the other hand, many European crops proved to be especially adapted to the new environment and became fully acclimatized.

There was, however, practically no improvement in the plants, vegetables, and fruits by culture and selection, after they were once introduced, except in the case of tobacco, rice, and indigo, of which the quality and preparation for market were distinctly bettered. Agricultural technique showed practically no improvement until after 1750. Agriculture was still so much of an art, with no scientific principles which could guide the farmers, that its introduction into a new country was a matter of experimentation, of trial and error. The introduction of new crops into America during the colonial period was an agricultural experiment not only on the largest scale that the world had ever seen but one which was carried on with the greatest persistence for two hundred years.

The agricultural progress of the colonial period showed great variations from time to time and from one region to

another, and can probably be best portrayed by describing the conditions in the three main regions, for the differences of climate and consequently of crops were so great that the systems of agriculture were quite diverse.

Agriculture in New England.—The character of agriculture and the nature of the crops which were produced in New England were determined by the climate and soil of that region. The lowland belt between the ocean and the mountains is only from fifty to eighty miles wide, and the shore line is broken by many indentations, affording safe harbors and tempting the inhabitants to maritime enterprises. The glaciated soil was covered with a heavy deposit of boulders, which had to be cleared off with endless labor before cultivation of the land could begin. Once cleared, the land could be cultivated a long time without exhausting its fertility; the necessary phosphate was supplied by using fish for fertilizer in the Indian fashion. Manure was not to be had in sufficient quantities for fertilizing, as the cattle were not housed either in the winter or summer, nor kept confined in fields.

The short summer and severe winter permitted the growth of only such crops as would flourish under these conditions—the bread grains, vegetables like cabbages, turnips, squash, onions, beans, parsnips, carrots, pumpkins, cucumbers, some of which were introduced from Europe, and fruits like apples, pears, plums, quinces, cherries, bush fruits, and nuts. Orchards were soon planted on every farm, and cider became a favorite beverage. Potatoes were not common in New England until the middle of the eighteenth century, and tomatoes were unknown. The white potato, though introduced later than most of the plants already named, has come to rank next to the cereal crops in importance. Carried from South America to Europe by the Spaniards it was accepted only slowly as a food, being called “devil’s apple” because it grew underground. It first gained popularity with the Irish and became such a staple food with them that it was called by their name. When it was carried back to the English colonies (about 1720) it was not considered edible, as it was thought to be poisonous, but the Irish settlers in New Hampshire soon dispelled that belief, and

by the end of the colonial period the white potato was a general article of diet.

All of these crops required intensive cultivation and, consequently, gardens were rarely planted in New England except for the most easily grown vegetables. These facts—the contracted area, the high labor cost of the land, and the nature of the crops—all made for small farms. And what nature prescribed the character of the colonists favored, for most of those who settled in New England came from the class of small farmers and artisans, though there were not lacking representatives of the upper classes and the professions.

Corn was the most important of the field crops and it was one of the first which they grew. In April, wrote Governor Bradford, the Pilgrims “began to plant ther corne, in which servise Squanto stood them in great stead, showing them both ye manner how to set it, and after how to dress & tend it.” Fortunately the weakened colonists obtained not only the assistance of friendly Indians, but also found some cleared fields deserted by their former cultivators as a result of a pestilence.⁷ They also adopted the Indian custom of planting beans and pumpkins amidst the corn. Wheat, rye, oats, barley, and buckwheat were also grown to some extent, the last three as fodder for cattle as well as for human consumption.

A striking lack among the native flora was nutritive forage plants. As the Indians had no domestic animals they had never developed hay and pasture plants and until these were introduced from Europe the cattle fared badly. The native grasses grew rank and high—“as high as a man’s head”—but they lacked sufficient nutriment for winter feeding. It was not until the middle of the seventeenth century that the various clovers were introduced into England, but they were soon after brought to the English colonies in America where they were eagerly welcomed. Indeed the recognition of the value of timothy as a forage crop by

⁷ These cleared fields were found in all the English colonies, most frequently along the banks of rivers and small streams. Although their origin is not altogether certain, it is probable that they were cleared by the Indians for purposes of agriculture or resulted from the periodical burning of the woods in order to facilitate capture of game and perhaps to provide pasture for it.

American farmers and its widespread use has led some writers to the conclusion that this was a native grass.⁸

Domestic animals.—There were in North America, prior to its discovery by Columbus, no domestic animals, nor any capable of domestication except “a dog which howled but did not bark.” The Indians had been sadly handicapped by lack of animal power, and to this fact must be ascribed, in part at least, their lack of progress. It was therefore necessary for the colonists to import all the cattle, horses, poultry, and other livestock. The immigrants to New England were accustomed to the care of sheep and cattle and to the consumption of their meat, and brought remarkably large numbers of horses, sheep, and cattle with them. The English cattle came chiefly from Devonshire, but Dutch cattle were later introduced from New York, Spanish cattle from Virginia, and Danish cattle which were imported into New Hampshire. Flint considers that the Danish stock was the most important and gave to the working oxen of New England “much of their character and reputation for strength, hardihood, quickness, and docility.”⁹ Oxen were preferred to horses for draft purposes, being better adapted for plowing the rough stony ground and for use in connection with lumbering in winter. Cattle-raising was, however, never so important an industry in New England as it became in the southern colonies, but dairying had reached a considerable development by the time of the Revolution. Hogs were early introduced and adapted themselves to their new environment more readily than any other domestic animal; they multiplied so rapidly that it became possible to ship quantities of barreled pork to the West Indies. Sheep were also imported into New England, but had a hard struggle against wild animals, Indians, and the severe climate; the colonists were able, however, to supply their own needs for wool.

Horses were imported at an early date and multiplied rapidly on the free range, so that by the middle of the seventeenth century there was a surplus of horses which

⁸ I.e., Carver in Bailey's *Cyclopedia of Amer. Agric.*, IV, 47. I have followed Carrier, *Beginnings of American Agriculture*, 241, and Bidwell and Falconer, *Agriculture in the Northern United States*, 104.

⁹ *Eighty Years' Progress*, p. 38.

formed the basis of a very profitable and increasing export trade to the West Indies. On the sugar plantations of these islands there was a strong demand for horses and cattle for draft purposes, to haul the cane from the fields, to transport sugar and supplies, and to turn the heavy cylinders in the cane-crushing mills.¹⁰ Horses were also of great value to the colonists for purposes of rapid transportation; until the building of roads and bridges made it possible to use wagons, most land travel was on horseback, and for this purpose a special breed known as *Narragansett pacers* was in especial demand because of their easy gait. With the cessation of the need for saddle horses this breed disappeared. Heavy draft horses were unknown. Horse-breeding was conducted in Connecticut and Rhode Island on a considerable scale during all the colonial period, for which the original stock seems to have come from England, Flanders, and possibly Ireland.

The cattle, horses, sheep, and swine brought over from England were much smaller than our present representatives, their average weights in the Smithfield market, at London, as late as 1710, being as follows: beeves, 370 lbs; calves, 50 lbs.; sheep, 28 lbs.; lambs, 18 lbs.¹¹ After importation, the severe climate and the hardships they suffered on the commons or open range in winter, the promiscuous crossing, and general lack of care caused a deterioration in the livestock.¹² The author of *American Husbandry* reserved his severest criticism for this feature of American farming: "Most of the farmers in this country are, in whatever concerns cattle, the most ignorant set of men in the world. Nor do I know of any country in which animals are worse treated. Horses are in general, even valuable ones, worked hard and starved; they plough, cart, and ride them to death, at the same time that they give very little heed to their food; after the hardest day's work, all the nourishment they are like to have is to be turned into a wood, where the shoots and

¹⁰ Deane Phillips, *Horse Raising in Colonial New England*. Cornell University, Agric. Exper. Station Memoir No. 54. May 1922. P. 899.

¹¹ There is some doubt as to whether these figures were for live weight or dressed animals.

¹² "Every day their cattle are harassed by labour, and each generation decreases in goodness and size, by being kept short of food." Peter Kalm, *Travels into North America*.

weeds form the chief of the pasture ; unless it be after the hay is in, when they get a share of the after-grass. . . This bad treatment extends to draft oxen ; to their cows, sheep, and swine."

Farm implements.—One of the greatest obstacles to agricultural progress was the scarcity and rudeness of the farming implements which the colonists had. According to Flint¹³ the Pilgrims had no plows for twelve years after they landed, and as late as 1637 there were but 37 in the colony of Massachusetts Bay. Towns often paid a bounty to any one who would keep a plow in repair, in order to do the plowing for the community.

The hoe was, however, of more significance than the plow for a considerable period because of the practice of planting around stumps and of the predominance of intertilled crops. Even in cleared fields a farmer could plow in a day only about one acre, in which the furrows thrown up stood on end and had to be leveled for cultivation by a heavy harrow.

The massive old wooden plow, with mold-board of wood, partially covered with strips of iron, required frequently four oxen and three men to manage it. Because of the great strength needed to draw such a plow oxen were preferred to horses throughout the colonial period. In addition to this implement the colonial farmer had a spade, a hoe, a scythe, a reaping hook, a flail, a clumsy fork, and now and then a harrow. All of these were rudely made of wood ; almost the only metal available was bog iron, which was very brittle and made the implement likely to break. For mowing the New England farmer used a sickle or a scythe and for threshing a hand flail. With a sickle a man could reap about three-fourths of an acre of wheat in a day, and with a flail could thresh five or six bushels.¹⁴ In the southern colonies grain was usually trodden out from the husks by horses or cattle that were driven around the threshing floor. The scarcity and poor character of tools was an important influence in promoting exploitative agriculture ; the land was wastefully used when the capital instruments were so inefficient.

¹³ *Eighty Years' Progress*, p. 27.

¹⁴ Leo Rogin, *The Introduction of Farm Machinery* (Berkeley, 1931), pp. 125, 138.

Agriculture in the middle colonies.—The more genial climate and the more fertile and less stony soil of the middle colonies made agriculture the dominant interest there as it could not be in New England, while the denser population furnished better markets. Agriculture was less primitive, the land was more thoroughly cleared and better plowed and cultivated, and the buildings and tools were superior. It was less uniform, however, as each element of the heterogeneous population, representative of every nation of northern Europe except Russia, introduced its own plants and livestock and used its own peculiar implements and methods. The Germans of Pennsylvania, arriving on the scene later than the first pioneers in Massachusetts and Virginia, introduced more thorough and skilful methods, and probably exhibited the best agriculture in the colonies.

The crops were much the same as in New England, though relatively less attention was given to corn and more to wheat and oats; rye, barley, and buckwheat were also grown. So large was the production and export of these staples that the middle group was called the "bread colonies." By the middle of the eighteenth century 80,000 barrels of flour a year were being shipped from New York, though Pennsylvania was the chief granary of the continent; the exports of flour from this province were given in 1775 as 350,000 barrels.¹⁵ Potatoes and apples flourished in New York while New Jersey and Delaware were soon famous for their peaches. The author of *American Husbandry*, coming from a country where this fruit was a hothouse product, was impressed by their abundance as well as their flavor: "Peaches are of a fine flavor and in such amazing plenty that whole stocks of hogs on a farm eat as many as they will, and yet the quantity that rot under the trees is astonishing. . . Watermelons also are in such plenty that there is not a farmer or even a cottager without a plot of ground planted with them."

The cattle of the middle colonies showed almost as diverse origin as their owners. From Holland the Dutch settlers of New Amsterdam had brought the belted cattle of their native country, Swedish cattle had been introduced into Dela-

¹⁵ *American Husbandry*, 181, quoted in Bogart and Thompson, *Readings*, 78.

ware, and the hybrid stock of New England, which were themselves a mixture of English, Danish, and possibly Spanish strains, filtered into New York. Large herds were soon to be found on the rich meadow lands of New Jersey, Pennsylvania, and New York. Hogs multiplied everywhere, running wild in the woods and living on mast and roots. Sheep were raised by the Germans in Pennsylvania, who used their wool for their domestic industry. Horse-breeding was certainly not so important as it was in New England, though the splendid Conestoga draft horses were developed here.

The implements seem not to have differed from those already described for New England, but a grain drill was reported as in use in Pennsylvania in 1775, having been recently imported from England.

The agriculture of both New England and the middle colonies was self-sufficing, that is, it provided the farmer with practically everything he needed. Except for salt and iron, the northern farmer could subsist on the product of his farm; from it he obtained meat, dairy products, bread-stuffs, vegetables, and fruit, and even sugar (maple) and cider or whisky. His clothing was made up from the flax and wool which he produced, and which his wife spun and wove; his shoes and boots would probably be made by an itinerant shoemaker out of leather skinned and tanned on the farm. Many a northern farmer "lived on his own" in this fashion during the colonial period.

Agriculture in the South.—Wheat was the first crop planted by the Jamestown settlers within two weeks after their arrival in 1607. It was not successful and the colonists soon turned their attention to corn as a food product. After they had been instructed in the native methods of growing this crop they were so successful that by 1631 there was a surplus for export, for which they sought an outlet in the West Indies and elsewhere. The raising of food products was threatened, however, by the introduction of tobacco by John Rolfe in 1612. This had long been grown in the Spanish West Indies and exported to Europe; about 1565 it was introduced by John Hawkins into England, where a great demand for it developed; by 1612 the English

people were expending £200,000 a year for tobacco, most of which came from the West Indies.

The first tobacco grown was inferior to the Spanish, but a new method of curing it greatly improved its flavor and soon the demand for Virginia tobacco forced the price up and the resulting high profits stimulated its production and export. The exports were 20,000 lbs. in 1619, and 500,000 in 1627; by 1700 they were 28,000,000, and by 1775 they were 85,000,000. The settlers turned with one accord to the raising of tobacco, and the forests could not be cleared off fast enough; in 1617 even the roads and market-place of Jamestown were planted with tobacco.

In spite of the "Counter Blaste to Tobacco" by James I, who disapproved of its use, the production continued to increase rapidly. It was estimated that the same amount of labor devoted to the growing of tobacco would yield a money return six times as great as when applied to wheat production. Tobacco had a great advantage over almost every other export from the colonies except furs—it had a high value in a small bulk and so its export did not involve high transportation costs; it also produced a high yield per acre, and its keeping qualities were good.

Tobacco consequently became the staple crop of Virginia and Maryland during the colonial period and also was grown in the Carolinas. The concentration on tobacco soon brought about overproduction with a consequent fall in prices. From 3 shillings a pound in 1617 it fell to a half-penny in 1666. Efforts were made to stabilize prices by price-fixing legislation, by limiting the planting, by destruction of the surplus, and in other ways, but without much success, and prices fluctuated greatly. Thus the American farmer met with the problem of a market surplus in the production of this export crop at the very beginning of his history. As in the case of maize the Indian methods of cultivation were adopted with little change: a piece of land was cleared by felling the trees and burning them, and amid the blackened stumps the tobacco was planted until the rich but thin virgin soil was exhausted, when it was abandoned. The life of a field for tobacco-growing was from three to eight years according to

the fertility of the soil. Such a wasteful method made southern agriculture essentially migratory and necessitated the control and use of vast areas of land ; accordingly the land was held in large estates rather than in small farms as in New England.

Tobacco-growing also required large numbers of laborers and the demand for labor was met most readily by the importation of slaves. The nature of the crop determined therefore the character both of the land system and of the labor system. It also determined the location of the plantations, and held them to the river banks ; since tobacco was an export crop it was convenient for the ships to sail up the broad rivers to the planter's wharf to be loaded. The first plantations were settled along the James, York, and other rivers and along the shores of the bays and inlets ; late comers were compelled to take the land farther away from the water and to get their tobacco on board ship as best they could.

Rice was probably introduced into South Carolina as early as 1669, but was not successfully raised until almost thirty years later, when an improved Madagascar variety was introduced. Grown at first on the uplands, it was soon transferred to the low swampy coast lands where it flourished through the long hot summers. By 1753 the planters were exporting from "Charlestown" 100,000 barrels annually, and by 1775 the exports were 125,000 barrels. Indigo, the other great export crop of South Carolina, dates from 1741, when Eliza Lucas, daughter of an English planter, after several discouraging experiments, succeeded in producing a dye equal to the West Indian product. Its production was stimulated by the grant by Parliament in 1748 of a bounty of sixpence a pound, and for the next thirty years the export of indigo was a source of increasing wealth. For the ten years prior to the Revolution the average exports were 700,000 pounds annually, at prices ranging from two to five shillings a pound.

The production of rice and indigo dovetailed so as to provide a twelve month routine for slave labor, and consequently afforded an economic basis for slavery as did tobacco in Virginia. Cotton was raised for home use in all

the southern colonies, and by the time of the Revolution was grown quite extensively. Its commercial production was, however, limited by the high cost of separating the lint from the seeds, but the cutting off of foreign supplies of cotton goods during the war for independence stimulated the production of raw cotton to supply the need for clothing.

Corn and wheat were also always grown, and the former was the chief reliance as a food product. Sweet potatoes were universally raised and were a favorite article of diet. Apples and pears were successfully grown by grafting English varieties on the native crabtree. Peaches also flourished and were found on every plantation.

Livestock in the South.—The livestock industry was especially distinctive of the Carolinas, though it flourished also in the other southern colonies. Cattle were brought to Jamestown soon after its settlement from England and Ireland, and later Spanish cattle from the West Indies were added. By 1639 there were 30,000 head in the colony. The cattle were allowed to run wild in the forests, finding their own forage for the most part. Practically all the unenclosed land formed one vast common upon which anyone could pasture his stock, and the farmer whose crops might be injured by the cattle was compelled to fence his farm in order to keep the cattle out; the cattle owner was under no compulsion to fence his livestock in. Later, as livestock multiplied, regulation became necessary.

Similar conditions prevailed in the Carolinas; by 1775 the author of *American Husbandry* described the large herds, often numbering 2000 cattle, which a single individual might own in North Carolina—"such herds of cattle and swine," he added, "are to be found in no other colony." This was the beginning of cattle-ranching in the present United States, and all the accompaniments which later became so familiar in the Far West were introduced here, such as round-ups, branding, open range, disputes with the planters, and so forth. Cattle were concentrated at "cowpens," which were enclosures in the rough frontier settlements like the cow-towns of the later western ranges. From these districts cattle were driven to Charleston, Norfolk, Baltimore, and Philadelphia.

Hogs were also allowed to run at large in the forests where they found excellent food and, reverting to a half wild state, were later known as "razor-backs." They multiplied very rapidly and there soon began an export trade in pork; even thus early Virginia hams and bacon came to have a high reputation. Sheep did not flourish during the early colonial period in the South on account of the wolves, but by the end of the seventeenth century flocks began to be common. Goats, on the other hand, which could protect themselves, increased almost as rapidly as swine, but lost ground when sheep-raising became possible. Neither of these, however, was so important as cattle.

Horses were not very highly regarded at first since the lack of roads made their use impracticable for transportation except as packhorses, while oxen were preferred as draft animals on the farm. With the growth in wealth of the colonists they came to be prized as saddle horses. Purry,¹⁶ writing in 1731 of South Carolina, stated that "horses, the best kind in the world, are so plentiful, that you seldom see anybody travel on foot."

There was the same lack of implements in the southern colonies as in those to the north; capital in all its forms was everywhere scarce. Even as late as 1648, when there were 15,000 white people and 300 slaves in Virginia, there were only 150 plows. The methods used in growing tobacco required that most of the work be done by hand, for which a hoe was the favorite tool. In general the farm implements were the same as those used in New England and the middle colonies. In striking contrast with the self-sufficing agriculture of the north, that of the south was largely commercial, that is, it raised commodities for sale or export and with the proceeds purchased the things not produced at home. The great staple crops of this period—tobacco, rice, and indigo—were wholly commercial, and not until the middle of the eighteenth century was the production of breadstuffs, livestock, and flax sufficient for local consumption in addition to export needs.

Land tenure.—The claims of the European nations¹⁷ to

¹⁶ See Bogart and Thompson, *Readings*, 41.

¹⁷ See map on page 17.

the lands of the New World were based upon priority of discovery and exploration, of conquest, and of settlement. Of these the last named was the most important and the decisive factor in giving title.¹⁸ Thus the papal bull dividing the newly discovered lands between Spain and Portugal did not deter other nations from taking possession of territory which they wished. Nor was greater regard paid to the rights of the original possessors of land, the Indians. Some of the proprietors, like William Penn, or the states, like New York, made treaties with the Indians, by which these ceded their possessions to the white man; and after the establishment of the union the federal government was always careful to make treaties with the Indian tribes in which cessions of the land were made. But the early settlers were usually satisfied with titles to ownership based upon royal grants, and did not inquire too closely into the right of the European monarchs to claim and dispose of the land.

The land system of New England was characterized by grants to companies or groups rather than to individuals, by community or town settlement, and by freehold tenure in small parcels of land which individuals received in turn from the towns. In addition to the private holdings, communal holdings were also found throughout the whole section and as far south as Delaware; fields—usually three—were held in common and their cultivation was decided each year in general meeting. Later, as the towns filled up and grew strong enough to protect outlying fields against raids, the arable meadow and woodland were divided, but common pasture did not disappear until the end of the eighteenth

¹⁸ Chief Justice John Marshall later erected this into a principle according to which the claims of the United States to all the land under its jurisdiction were legalized. "This principle," wrote Marshall, "was that discovery gave title to the government by whose subjects, or by whose authority, it was made, against all other European governments, which title might be consummated by possession. . . The United States, then, have unequivocally acceded to that great and broad rule by which its civilized inhabitants now hold this country. . . They maintain, as all others have maintained, that discovery gave an exclusive right to extinguish the Indian title of occupancy either by purchase or by conquest. . . All our institutions recognize the absolute right of the crown (in colonial days) subject only to the Indian right of occupancy, and recognize the absolute title of the crown to extinguish that right. This is incompatible with an absolute and complete title in the Indians." Quoted by Channing, *A History of the United States*, I, 354. According to this theory, the Indians were mere occupants and the white man, by discovery, became possessor of all the land in America. This was the early papal view.

century. As an economic system of land tenure these communal holdings had obvious defects, but the social and political results were beneficial, for they developed habits of group action and of compact social life. The average size of a New England farm was between 100 and 200 acres, except in the stock-raising district of Rhode Island where it was necessarily larger.

Outside of New England most of the land was originally disposed of on some basis of feudal tenure, but as time went on there was a tendency to allot the land in manageable parcels like those in the northern colonies. Small farms held in fee simple came to be the rule, though they were larger than in New England. A unique exception lay in the large manorial grants made by the Dutch and confirmed and extended by the early English governors in New York. The manorial system, however, was restricted to the valley of the Hudson, and the large estates of from 50,000 to even a million acres lay in large part uncultivated until they were broken up into small holdings; they exerted practically no influence on agricultural development.

The proprietary system, in which the aim was to attract settlers, led to an individualistic type of settlement quite different from the compact community settlement of New England, and not infrequently resulted in an undesirable dispersion of the population. The type of agriculture in both New England and the middle colonies was self-sufficing, aiming to supply only the wants of the colonists, since they did not produce articles in great demand abroad. This self-sufficing system made necessary a large number of small farms worked by their owners, and these in turn produced a democratic type of society.

While small farms were characteristic of the North, it has generally been stated that large plantations were the typical estates to be found in the South. Such a broad generalization needs qualification. Large plantations never prevailed generally throughout the southern colonies, and in the seventeenth century were not typical even in Virginia or the Carolinas. By the eighteenth century, however, the plantation type of agriculture required large holdings and the great plantations developed in the tobacco and rice dis-

tricts. The great abundance of land in proportion to population made such a development much easier there than in the more restricted area of New England with its rapidly growing population.

The difference between New England and the South was mainly the result of economic causes: the fertile soil and the presence of a few staples for which there was a good market abroad, and which lent themselves to extensive cultivation, made the large plantation profitable in the southern colonies. They consequently developed a commercial type of agriculture, which demanded a large supply of cheap labor. The average size of the Virginia estate of the eighteenth century was about 5000 acres, while in New England the average farm was probably not far from 150 acres. On the other hand, in the seventeenth century, the value of an acre of New England land was about fourteen times that of an acre in Virginia.

The law and practice regarding grants and inheritance were also partly responsible for the enormous estates of Virginia and of other colonies. In the proprietary colonies enormous tracts of land were given to the proprietors, but these were passed on to others, usually under some form of feudal tenure. Large grants were also made to individual promoters and to land companies who engaged to import and settle a given number of colonists. The more usual method of obtaining land was by "head right." This was the right to land acquired by the actual settler. In order to encourage immigration, this right was extended to anyone who imported others, as indentured servants or slaves; it widened further to include rights for meritorious service, to clergymen, physicians, and even to servants on completion of their terms of service, or as gifts for purely personal reasons, and finally the sale of head rights to all comers for a few shillings. In justification of this last device it should be noted that until direct purchase was authorized in 1785 no other method of obtaining land existed in Virginia. The system was greatly abused and by the eighteenth century was abandoned in the other colonies in favor of a policy of sale.

The issuance of a patent or title deed for the land granted was usually conditional on actual occupation and the payment

of a small annual quitrent. This was an annual charge payable to the grantor. The quitrents varied from time to time, generally becoming higher as the value of the land increased. A frequent charge was two shillings per hundred acres. Small as the payment was, these charges were very unpopular and collection was found extremely difficult. Just before the Revolution quitrents in Virginia, where they were most efficiently administered, yielded only £10,000 to £15,000 a year. As a form of revenue quitrents were universally unsatisfactory. These feudal charges never existed in New England, where alone in America a settler could obtain absolute title to an unencumbered estate.

Inheritance in the southern colonies, as also in New York, followed the law of primogeniture; the principle of entail was even more strictly applied in these colonies than in England. In New England and Pennsylvania, while the right of the eldest son was still recognized, he received only a double portion, the rest of the property being divided equally among the other children. Primogeniture and entail were not abolished entirely until the Revolution.

Conclusion.—The agricultural problems presented to the colonists were several. The one first solved was how to produce the necessary food supplies, and in answering this the aid of the Indians was invaluable. Practically the only contribution of Indian culture to our American civilization was in agriculture, but in this field it was noteworthy. The Indians had succeeded in bringing wild plants under control and practiced plant-breeding and seed selection. Because of the absence of domesticable animals and of adequate tools their farm operations resembled horticulture rather than agriculture, but it was well adapted to the crops raised. They also knew how to preserve food—meat, vegetables, and fruit by drying, either over a fire or in the sun, and berries, nuts, and similar edibles by mixing with honey or syrup. In the semi-arid country of the far west they practiced irrigation, and on the plains had developed great skill in dressing skins. All this knowledge was quickly appropriated by the white settlers.

The next problems to be solved were those of determining the best crops for each section and the most profitable

methods of production, and of obtaining the necessary capital in the form of farm implements. The first of these could be answered only by experimentation and here assistance was given not only by company directors in England and by individual farmers in America, but by every ship captain who brought back seed from the foreign ports at which he touched. Although the process was wholly empirical, it was very successful in determining the crops best suited to each locality. The farm practices were a resultant of Indian and European methods, and of the economic combination of the factors of production as they existed in the colonies. It is difficult to generalize broadly for such different regions and for so long a period, but colonial agriculture as a whole may fairly be called exploitative. In sacrificing the land and conserving labor, the colonists were simply following the line of least resistance and largest returns.

The methods of distributing and granting title to the land were also determined by the conditions of the new environment. Efforts to perpetuate the feudal practices of Europe proved unsuccessful and ultimately gave way to freedom in ownership and exchange of land. Only in respect to the treatment of Indian occupants can colonial procedure be called into question.

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CHAPTER III

COLONIAL INDUSTRIES

Early experiments.—One of the motives which led to the founding of English colonies in North America was the desire to establish there industries which should furnish the mother country with articles for which she was then dependent upon other countries. The emigrants who were first sent out were miners and artisans and tradesmen rather than farmers. One of the first broadsides of the Virginia Company, calling for settlers, solicited "blacksmiths, coopers, carpenters, shipwrights, turners, all who work any kind of metal, men who make bricks, architects, bakers, weavers, shoemakers, sawyers, and those who spin wool."

Workmen were imported from Europe to set up the manufacture of pitch and tar, potash, and glass. And in response to the urgings of the company directors in London some of the first exports from the colonies were a cargo from Virginia in 1608 of pitch, tar, iron ore, potash, and clapboards. Captain John Smith, who understood better the conditions of colonizing, sent back word that "it were better to give five hundred pound a tun for those grosse Commodities in Denmarke, than send for them hither, till more necessary things be provided." But even Smith himself seemed to have conceived manufacturing to be the logical occupation of the colonists, for in his *True and Sincere Declaration*,¹ published in 1610, he asked that there be sent to Virginia, in addition to the workers enumerated above, "iron men for the furnace and hammer, gunfounders, tile-makers, salt-makers, rope-makers, sope-ashe men, minerall men, silke-dressers," and other artisans. These intentions were persevered in, for in 1620 Sir Edwin Sandys stated at a meeting of the company that one hundred and fifty persons had been sent over to

¹ The fuller title of this work was "A True and Sincere declaration of the purpose and ends of the Plantation begun in Virginia," etc.

set up ironworks, and that the settlers had been urged to make naval stores and lumber products, soap ashes, cordage, and other things needed in England. But, by this time the profitableness of tobacco had rendered futile all such exhortations and thereafter manufactures languished in Virginia.

It is not necessary to rehearse the early experiences in the other colonies, for in all of them the outcome was the same. The industries to which the colonists devoted themselves were those which yielded the largest immediate returns. What these should be were determined in each instance by two dominant influences : natural resources and a market.

Forest industries.—The natural resource which existed in all the colonies, from Maine to Georgia, in almost inexhaustible abundance, readily accessible and easy to transport, and for which a steady and large market existed in Europe, was the forests. Practically the whole coast was clothed with timber, except in the occasional Indian clearings, and this was especially dense near the watercourses along which the early settlements were made. On the other hand, there was a great and growing demand for forest products in Europe. By the middle of the sixteenth century complaints began to be heard of the destruction of the forests and by the beginning of the seventeenth century firewood had become almost a luxury in many parts of western Europe, and the price of building materials had risen to prohibitive heights. This was true not only of materials for houses, but also for ships, a fact pregnant with danger in view of the growing interests of England overseas. The cutting down of the forests, moreover, threatened the iron industry, in which the smelting was done by charcoal, the tanning industry which needed oak bark, and other manufactures which depended upon forest supplies.

✓ When the English settlements were planted in North America it was only natural that both statesmen at home and settlers in the colonies should see in the forests a resource which could be utilized to the advantage of both parties. The colonists had much to learn about the trees and the products for which they were best suited. Some

knowledge they brought with them from Europe, and some they undoubtedly gained from the Indians, but experience taught them their most valuable lessons, as in the case of agriculture. ✓ Upon the forest resources were based four principal industries—lumbering and lumber products, ship-building and ship timber, the production of naval stores, and the making of potash. ✓

Lumber products.—The dearth of iron and the backwardness of the metallurgical arts, together with the plentifulness and cheapness of wood, resulted in making many articles of the latter material which today are made of metal. Most of the agricultural implements were made of wood, as were the majority of household articles, such as furniture of all sorts, wooden trenchers or plates, bowls, buckets, churns, butter-paddles, cheese-hoops, looms, spinning wheels, washboards, mortars for grinding grain, pegs, and many other things. The houses, barns, and fences, were of course made of wood, and wood was also used exclusively as fuel. In addition to the domestic needs there was a steady demand for many of these articles for export to the West Indies, and especially for cooperage stock for the sugar and wine islands.

The process of making sugar, as it was then carried on in the West Indies, was very crude. The juice from the sugar cane was boiled until it was ready to crystallize; the crystals constituted a coarse brown impure sugar called "muscovado," and the remaining liquid was molasses. The barrels or containers for both these products must not only be tight enough to hold the contents but must keep out the moisture; a single porous stave might ruin the contents of a sugar barrel. Only the best lumber was used for these barrel staves, and the sugar barrels were never used a second time for that purpose. Casks or pipes were also used as containers for the wine produced in the Madeira and Canary Islands. There was consequently a constant market for all the barrel staves, heads, and hoops and pipe staves for wine casks which the colonists could produce. The profits from this source must have been great for even by hand a man could make 15,000 barrel staves or clapboards in a year, which, according to Gent, were worth £4 per thousand in

the colonies and £20 per thousand in the Canaries. All these were shipped in great quantity, and even knockdown houses, ready to be set up on their arrival, were exported to the West Indies. Barrels were also needed for the fish, meat, flour, naval stores, and whale oil which were shipped out of the colonies. Red and white oak were the principal hard woods used for cooperage stock. Cedar, spruce, and fir were among the soft woods used for lumber and boards.²

In order to utilize the forest resources it was necessary to have sawmills, and these were early built. The first mill in the colonies is supposed to have been built near York, Maine, in 1623, which was forty years before they were introduced into England. One hundred years later the insignificant Piscataqua River in New Hampshire was turning the wheels of seventy sawmills from which flowed a stream of 6,000,000 feet a year of planks and other products. The Dutch built many mills in the Hudson River valley to run by wind and water, and throughout all the colonies sawmills and grist mills were established, small ones in remote interior points to meet local needs, and larger ones along the fall line of the rivers where there was water power to saw lumber for export. Between these points and the coast the forests were cut down so rapidly that by the eighteenth century there was already complaint of lack of wood for fuel in Boston, New York, Philadelphia, and even in smaller places. Colonial grist mills were public utilities and tolls were fixed by statute, being usually about one-sixth of the grain ground.

Shipbuilding.—The second important industry built up on the basis of the forest resources was shipbuilding. Here again there existed the combination of a scarcity of shipbuilding materials in Europe, or at least in England, and a cheap and abundant supply in the colonies. ✓ There was thus a strong demand from England for ships, masts, spars, and naval stores of all kinds, and at the same time there was a need in the colonies themselves for ships to carry on their expanding commerce. The colonists were well qualified to meet this demand for they had large supplies of excellent

² V. S. Clark, *History of Manufactures in the United States, 1607-1860*, p. 74, quoting Kalm's *Travels*.

ship timber at the very water's edge. Masts of white pine or fir, logs of oak fifty feet long, clear of knots, and straight-grained for ship timber and planks, pitch pine for tar and turpentine, and hemp for cordage furnished almost all the materials needed in the construction of a wooden sailing vessel.

The wasteful seventeenth century assumption that the supply of these ship timbers was inexhaustible gave way in the eighteenth century to a policy of conservation, as they grew scarcer. Trees suitable for masts of twenty-four inches in diameter at the base or larger were marked with a broad arrow and reserved for the use of the royal navy, under a penalty of £100 for their alienation to other purposes. Special mast vessels were built to transport these splendid timbers, and sometimes great rafts of masts and spars were bound roughly together in the form of a ship's hull and sailed to England where they arrived after weeks or even months. A great mast three feet in diameter at the butt, delivered at Portsmouth, England, brought in about \$3000 to the colonial owner. Even more important than the straight timber for masts and planks, however, was the need for logs of exceptional and peculiar size and shape for certain parts of the ship's anatomy. Knees, futtocks, stem, cathead, and other special pieces had to be taken from trees of crooked shape, with the right curvature or with two diverging branches or other peculiarities. These could not be spliced but must be a natural growth in one piece. The necessity of using these "compass" timbers limited the size of the ships and the number of ships which could be built.

Compared with modern steamships of 50,000 tons the fishing vessels of 10 tons and even the larger ships engaged in the West Indian and transatlantic trade seem tiny indeed. Toward the end of the eighteenth century the average tonnage of colonial vessels in the West Indian trade was only 68, and of ships entering England from America 176. Partly responsible for the small size of these ships was the economy of carrying on commerce in small units, and also the fact that harbors and rivers were not dredged and therefore only vessels of light draft could navigate in colonial waters.

The colonial shipwrights developed practical ideas about marine architecture and construction which enabled them to turn out excellent ships. The cost of building was very low : during the seventeenth century the prices in New England ranged between \$9 and \$15 a ton, but after the middle of the eighteenth century they rose rapidly ; by the close of the Revolution an oak vessel could be built in Massachusetts for \$34 a ton, while neither in England nor on the Continent could a similar vessel be constructed for less than \$50 a ton. By 1670 Portsmouth, New Hampshire, was sending ten mast cargoes a year to England, and a hundred years later between 300 and 400 vessels were being built yearly in the colonies. The first half of the eighteenth century was the most prosperous period of colonial shipbuilding. By 1775 about 398,000 tons, or nearly one-third of the tonnage afloat under the British flag, had been built in American shipyards. These were situated not merely in every seaport town of New England, but even in villages along navigable streams up to the fall line. New York, Pennsylvania, and Maryland also built vessels, but New England probably launched annually twice as great a tonnage as all these other colonies combined. The number of American ships in 1775 was estimated at 2000, manned by 33,000 seamen.

✓ **Naval stores.**—Closely allied to shipbuilding was the production of naval stores, as pitch, tar, turpentine, and resin were called. These were "key" commodities in the days of wooden sailing vessels, for they were used in almost every part of the ship. The planks of the vessel were coated with resin and pitch to preserve them against marine borers and dry rot, and the spaces between the planks were calked with oakum and melted pitch ; the rope rigging was also treated with tar to prevent its decay. Until iron steamships replaced the wooden sailing vessels these naval stores were essential to the shipping of the world. The northern countries of Europe bordering on the Baltic had a practical monopoly of their production and England had obtained her supplies from them, but when the Swedish company which controlled their supply attempted to raise their prices, Parliament turned for relief to the North American colonies.

By act of 1705 generous bounties were given of £4 per ton on all tar and pitch imported, £3 per ton on resin and turpentine, £6 per ton for hemp, and £1 per ton for masts, yards, and bowsprits, representing roughly the difference in cost of transportation between America and the Baltic region. Between this date and 1776, when they ceased, over £1,500,000 were paid to the American colonies in bounties.

The supply of naval stores was drawn from two sources, of which one was incidental to the clearing of the land and the other was the result of commercial production. In regions remote from the sea it was customary in clearing the land of pine and other resinous woods to boil out the tar they contained in rudely constructed kilns. Such an industry was simply a utilization of a waste product and ceased when the land was cleared. It was, however, of some importance while it lasted, for in a single year around 1700 over 6000 barrels of naval stores were shipped from Boston. The other source of supply was the regular commercial industry carried on in the production of naval stores, chiefly in North Carolina ; for this purpose the yellow pine was used. The exports of tar amounted to only 872 barrels in 1704, but increased to 82,084 in 1718 under the stimulus of the bounty. This was more than England needed and the price dropped disastrously ; as a result the bounties were cut in half. In 1770 the quantity of tar exported from all the colonies was 76,000 barrels ; of pitch, 22,000 ; and of turpentine, 16,000 barrels, worth in all about £175,000.

✓ Potash.—The fourth industry based upon the forest resources was the making of potash, but this too was largely incidental to the work of clearing the land for agriculture.

✓ Potash was made from the ashes of oak, ash, birch, and other hardwoods, and was therefore produced chiefly in the northern colonies. Wood-ashes were collected from the trees which were cut down and burned when the land was cleared ; these were then boiled with water in huge open kettles until the water evaporated and nothing was left except a thick brownish salt, called pot-ash. To make pearl ash this residue was placed in a hot oven until the carbon was burned out, leaving a lighter and more valuable substance. ✓ Potash and pearl ash were in great demand in

✓ England for bleaching, soapmaking, glassmaking, and other manufactures, and also as a fertilizer, and were early placed on the list of enumerated commodities which must be sent to England only. The profits from the sale of these products were generally sufficient to pay the cost of clearing a given piece of land, especially in districts so remote from transportation that the lumber itself could not be marketed.

In this connection may be mentioned oak bark, which was also a by-product of land clearing ; this was in great demand in England and also in the colonies for tanning leather.

The fisheries.—A second important group of industries was built up on the abundant ocean and river resources. Fish were found in all the rivers and along the entire Atlantic coast, but between Long Island and Newfoundland was discovered one of the richest fishing grounds in the world. Here the submerged coastal plain or continental shelf provided a large area of shallow water, rich in marine plant food, to which resorted cod, mackerel, herring, halibut, and many other varieties of fish ; while the deeply indented shore line and the many islands furnished numerous harbors in which the fishermen could find refuge from the storms, or land to dry and cure their catch before taking it to market. These waters, cooled by the ocean current from the Arctic seas, were also frequented by whales, and toward the end of the seventeenth century the whaling industry was added to that of fishing. Both of these were so intimately connected with New England that this section may be said to have had a practical monopoly of them, and they deeply affected the economic life of the people living there.

There was a large and increasing demand in the West Indies and Europe for fish as food, especially in the Catholic countries, while in the colonies fish were so general an article of diet that servants in Massachusetts are said to have stipulated that they should not be given salmon more than twice a week. ✓ In order to meet this demand European fishermen had pushed westward, reaching Iceland by 1300 and the Newfoundland banks by 1500. Many years before the first English settlement in North America, English fishermen had frequented the New England coast and established summer fishing stations, where they landed and dried their

fish. To the settlers at Plymouth Captain John Smith gave some blunt but sensible advice, "the main staple from hence to be extracted . . . is fish," and it was from the fisheries in truth that New England gained its greatest wealth. The industry was developed early, and throughout the whole of the colonial period remained a lucrative one.

The fish were sorted into three grades, the best merchantable ones being exported to the Catholic countries of southern Europe; the middlings being shipped to the Canaries, Madeiras, and West Indies, or consumed at home; and the poorest, which consisted of the small, thin, and broken fish, being sold to the sugar planters in the West Indies as food for the Negro slaves. In 1770 two-thirds of the dried fish were exported to southern Europe. In 1713 a Gloucester shipbuilder constructed a new type of ship, the schooner, which was better adapted to the deep sea fisheries than the older vessels, and after this the cod, mackerel, and whale fisheries took on new importance. By 1765 almost seven hundred vessels and over four thousand seamen were employed in the cod fishery alone, and the fishing industry was bringing in about £255,000 a year. Gloucester and Marblehead were the leading fishing ports of the eighteenth century.

The *whaling industry* was at first carried on close to the shore with small boats, but after 1700 New England seamen followed them into the deeper waters of the ocean. As the whales deserted the Atlantic coast they were followed to the Arctic and even to the Antarctic oceans by the whalers. Spermaceti, sperm oil, whale bone, and other products of the whale were in great demand, and upon the spermaceti oil was based a colonial candle-making industry of some importance. At the outbreak of the Revolution over three hundred vessels and four thousand seamen were engaged in the whaling industry, the center of which was located in Nantucket and New Bedford.

The fishing industry was confined exclusively to New England; during the colonial period not a vessel engaged in either the cod or whale fisheries was owned south of Connecticut. For that section it possessed great economic significance. The development of the cod and mackerel

fisheries provided New England with a needed staple for foreign trade ; they made the inhabitants a commercial and sea-going people, giving them a wider outlook, and breaking down the isolation of a purely agricultural community ; whale fishing brought in larger vessels and the practice of making longer voyages. Well might Edmund Burke exclaim, "No sea but what is vexed by their fisheries ; no climate that is not witness to their toils." The fisheries were indeed a "nursery of seamen" and seamen of a particularly hardy breed ; the training which these New England men received placed them among the best and most daring sailors.

Mineral industries.—Iron was found in practically all the colonies, in the form of either bog iron or of iron ore. The former was found on the edges of swamps and ponds in Massachusetts and New Jersey, and deposits of the latter existed from Connecticut to Georgia. The high cost of importing iron manufactures, such as agricultural implements, anchors and chains for ships, firearms, nails and horseshoes, kitchen utensils, and other necessities, together with an abundant supply of fuel for smelting at home, early stimulated the colonists to develop these resources and to supply themselves with these essential commodities.

The *iron and steel* industry may be divided into two branches, of which the first consists of the smelting of the crude ore and its conversion into pig or bar iron, and the second of the manufacture of various finished articles from the refined iron. In the former of these the colonists were interested only in so far as it was necessary as a first stage in the manufacture of articles for use. Not until the English legislation of 1750 encouraged the production and export of pig and bar iron was this industry carried on for its own sake. But the manufacture of simple iron articles was undertaken almost from the beginning of settlement.

The manufacture of the finished articles was carried on in workshops, except nail-making which was largely a household trade. There were no factories. Nail-making was done during the winter when there was little farm work ; a small furnace was set up in the chimney corner where the iron rods were heated, so that they could be cut into appro-

priate lengths and then hammered into shape by hand. With anvil and hammer a man could make two thousand nails in a day.

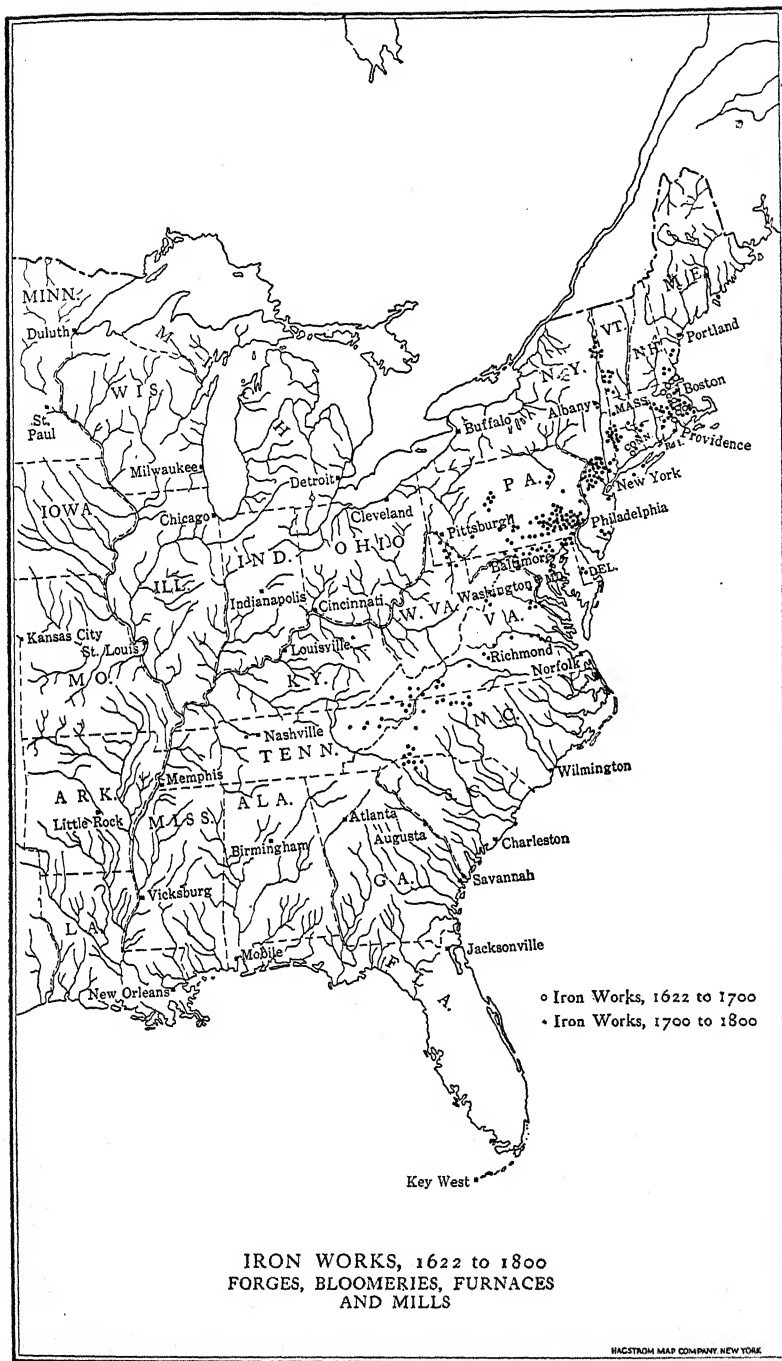
Colonial annals refer repeatedly to ironworks, though it is difficult to get an adequate picture at any time. A furnace was built in 1622 near Jamestown, which was said to have cost over \$20,000, but it was destroyed by the Indians and not rebuilt. A more successful smelting furnace was erected near Lynn in Massachusetts in 1643, and five years later a forge for refining the iron was set up, and soon after a foundry for casting. During the seventeenth century Massachusetts was the center of the iron industry, but Rhode Island and Connecticut took precedence as better deposits of iron ore were discovered there.

In the eighteenth century the smelting of iron ore was developed on a fairly large scale in New York, New Jersey, and Pennsylvania, and numerous forges and slitting mills were also set up. The statements of the governors of various colonies to the Board of Trade in 1731 reported some six furnaces and nineteen forges, all in New England, but this was undoubtedly an understatement, due partly to ignorance and partly to a desire not to create antagonism.³ They produced, said the report, "not a fourth part of the iron that is requisite for the use of the inhabitants."

Twenty years later the colonies reported five furnaces, ten forges, and four slitting and rolling mills. In these establishments the colonists produced handmade iron manufactures for their immediate needs; such as pots and kettles, chains, tires for wagon wheels and sleigh runners, anvils, guns, shovels, hoes, scythes, nails, and numerous other articles.

Other mineral industries for which there was an abundant supply of raw materials and whose products were in demand were the making of *brick*, *pottery*, and *glass*. The first of these was heavy and bulky but of small value, while the other two were subject to heavy loss through breakage. Consequently the colonists were forced to produce these articles for themselves if they wished them in any quantity.

³ *Report of the Lords Commissioners for Trade and Plantations to the House of Commons*, 1732. In Bogart and Thompson, *Readings*, 60.



{After Clark, Swank, and Bishop}

7/16/1906

Fortunately the technological processes in all three industries are comparatively simple and do not require much capital, so they were developed in all the colonies.

Bricks were needed for fireplaces and chimneys and were also used for houses as the colonists were able to afford them. Clay suitable for this purpose was found almost everywhere, and soft and glazed brick, and roof and enameled tiles were made; the processes were those of the workshop. Pottery, both plain and decorated, was also made, but earthenware and porcelain utensils never completely displaced the wooden and pewter plates and dishes during the colonial period. Glass was always a scarce and highly desired article at this time, but it was the least successful of all the industries mentioned; it was experimental in its nature and it required highly specialized skilled labor. The first glass furnace was erected at Jamestown in 1609, and a more successful one was established a few years later at Salem. Many attempts to manufacture glass were made during the colonial period, but the industry was always conducted on a small scale.

Industries based on agricultural resources.—The rude pioneer life and the hard manual toil must have made it extremely difficult for the colonists to keep themselves adequately supplied with suitable clothing, and the need was accentuated in New England by the long and severe winters. It was not possible to depend upon imported textiles for these were expensive and the colonists were poor. Spinning wheels, usually of the hand-wheel type, and hand looms were early introduced into all the colonies, and spinning and weaving of coarse "homespun" woolen and linen cloth was carried on in every household.

The raw materials of textile manufactures were neither abundant nor cheap, and a great deal of labor was required in the processes of manufacturing, in both of which respects it differed from the ordinary colonial manufactures. But in this case the urgent necessities of the colonists compelled them to undertake this work on their own account. England forbade the export of raw wool from that country and placed an export duty on woolen broadcloth, and after 1660 prohibited the importation by the colonists of the cheaper Dutch woolens. But this attempt to monopolize the manu-

facture for English artisans forced the colonists to rely on their own efforts rather than to buy English textiles.

The manufacture of cloth was a household industry for the most part ; in every farmhouse kitchen could be heard the hum of the spinning wheel on which the carded wool or prepared flax was drawn out into long even yarn or thread, a single one at a time. Weaving was a more elaborate process, requiring larger equipment and more skill and strength, and was frequently done by the men ; it was consequently less exclusively a household industry.

Fulling mills were usually carried on as separate trades, but after the cloth had been fullled the further processes of dyeing and the rude operations necessary to finish the home-spuns for country use were carried on within the home. The dye tub was almost as common an article of furniture as the churn. Rough druggets, kerseys, and linsey-woolseys, made of linen and wool, were the principal products.

Linen was more common than wool, for it was used not only for clothing but also for various household purposes for which cotton is used today, as bed linen, table linen, towels, and similar articles. European flax was introduced in 1629, but the colonists were never able to raise enough to supply all the linen they required. Hemp succeeded better, but the manufactures of this material were less important and less extensive, though the need for cordage led to the giving of bounties for the production of hemp in several of the colonies.

Cotton was but little used during the colonial period, and that was generally imported from the West Indies. By the time of the Revolution, however, cotton was being raised extensively in the southern colonies for domestic use. The black-seed varieties with smooth seeds, which could be easily separated from the lint, were generally grown. Compared with flax and wool the use of cotton was slight. The cotton thread was not strong enough to serve both as warp and woof ; it was therefore usually combined with flax.

Numerous efforts, under pressure from company directors and from the British government, were made to introduce silk culture. Silkworms were imported and the colonists in Georgia and South Carolina were enjoined to plant mulberry

trees, but the high labor cost prevented the industry from developing in competition with rice, naval stores, and other more profitable activities. But in spite of all difficulties the textile manufactures of the colonies grew to such a point that they led to investigations by the Board of Trade and Plantations at various times. Judging from the reports, it may be concluded that, taking them altogether, the colonists probably made about three-fourths of the textile goods for domestic consumption, but these were almost exclusively of the coarser grades for country use. The finer qualities of linens, woolens, and other goods continued to be imported from England and Ireland throughout this period, and were generally seen in the cities.

Leather manufactures were carried on both as a household industry and in separate establishments of some size. After the livestock industry developed there was a plentiful supply of hides of cattle and sheep, and the skins of deer, raccoon, fox, wolf, and beaver were also utilized for garments. Almost as essential as the raw material itself were the tan bark, tallow, and other materials used in tanning the hides and preparing the leather for market, but these, too, were to be had in abundance. The demand for leather products was large and continuous, for in a primitive and self-sufficing community leather is used for many things which in a more advanced stage are made of other materials. Thus not only were harness, saddlery, traces, belts for wheels, boots and shoes, gloves, and similar articles made of leather, but also vests, doublets, and breeches for men, and jerkins, petticoats, and aprons for women. Hinges for doors, straps in lieu of springs for coaches, and even bed supports were made of leather.

The first tannery in New England was erected at Lynn in 1629, and here there came shortly a shoemaker who laid the foundation of the shoe industry for which the city is still famous. A hundred years later Massachusetts shoes were being sent to the southern colonies and to the West Indies. Most of the shoes were, however, roughly cobbled by the colonist himself, or were made by itinerant shoemakers out of leather tanned and prepared by the customer. The itinerant cobbler and the weaver were two of the most im-

portant workers in the colonial economy, for both their trades called for great skill. So long as transportation was inadequate and expensive it was cheaper to carry the skill to the material than to convey the raw material to the artisan.

Paper-making is more deserving the appellation of manufactures than several of the other industries mentioned, for it required a considerable capital equipment and skilled labor. During the colonial period paper was made from linen rags, which were cut, ground to pulp, made into sheets, and dried in much the same way that hand-made paper is manufactured today. The industry was introduced into Philadelphia in 1690 by a Dutch immigrant, Rittenhouse, and this city became the center of paper-making for the colonies. It supplied more raw material than any other colonial city, not only by reason of its size but also because its inhabitants wore more linen, while the citizens of Boston preferred wool on account of the colder climate. This was, moreover, a more highly specialized craft than brewing or tanning, and the Dutch and the Germans understood it better than the English. With paper manufacture went the printing business; Benjamin Franklin, the printer, gained part of his fortune from investments in eighteen paper mills.

Corn and grist *mills* for grinding grain into flour were found in all the colonies. Country grist mills, run by water power, furnished frequently by an undershot water wheel placed in the flow of the stream, were among the earliest establishments in a new community, where they ground on toll for the neighboring farmers. These were small, but during the eighteenth century large merchant mills, converting over a hundred bushels of grain a day into flour, manufactured flour for the export trade. Bake ovens were sometimes associated with them, in which ships' biscuit was baked. The importance of these industries in the middle colonies is evidenced by the fact that in 1764-66 practically half of the exports from New York and Pennsylvania consisted of these two items.

The preparation of certain agricultural products for the market sometimes involved so many processes, carried on by the use of capital and specialized labor, that they deserve to rank as manufacturing rather than as agriculture. Thus

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tobacco, after being picked, had to be dried, sorted, and packed, the further processes of converting it into smoking tobacco or snuff being carried on in the countries of its destination. Rice had to be cleaned, polished, and packed for exportation. Indigo required several complicated processes of fermentation, evaporation, and drying before the cakes of coloring matter were ready for exportation. The preparation of fish and meat for food also constituted important industries. Over half of the exports from New England in 1763 were fish products, which were dried, cured, salted, and packed. The slaughtering and preparation of meat products for the market was generally a farm enterprise, but in the middle and southern colonies they were sometimes carried on as separate industries. A large amount of barreled, pickled, and salt beef, pork, hams, bacon, and butter, cheese, and other products were produced for the domestic market or shipped to the West Indies.

Brewing was a household industry in most of the colonies, but it was also carried on as a specialized trade. Barley, wheat, Indian corn, and rice were all malted for fermentation, and most of the beer and ale was consumed immediately as it would not keep. The manufacture of cider was also large in the northern colonies. But most important of all was the making of *rum* which was distilled from West Indian molasses. On the sugar plantations of those islands molasses was a by-product in the making of sugar, but as there was little demand for this product in its natural state the problem arose as to what disposition to make of it. The English planters distilled their molasses into rum, but the French and the Dutch planters could not do this for the rum would compete with the French brandy and Holland gin of the home countries. ✓The molasses in those islands was, therefore, treated as a waste and was run into the creeks or the ocean, but here it became a serious nuisance under the hot tropical sun. When permission was given to sell the molasses the Yankee traders were able to buy it for a trifle—two or three shillings a hogshead—and upon this cheap raw material they soon built up a flourishing and lucrative distilling business. ✓The distillation of molasses into rum probably came nearest to our modern system of manufactur-

ing of all the colonial industries. As the demand grew the price of molasses rose. ✓The consumption of molasses as such was small, although some was used in New England and in the fisheries as a cheap substitute for sugar, but for the rum there was an enormous demand. ✓The imports of molasses and of rum into the continental colonies far exceeded any other article of West Indian produce. In 1769 some 3,880,000 gallons of molasses and 2,834,752 gallons of rum were imported; ⁴ since one gallon of molasses would make one gallon of rum, there was thus available a total of over 6,700,000 gallons of rum or between two and three gallons per capita. Considerable was consumed in the colonies, but a large part was exported to Africa where it was bartered for slaves, ivory, gold dust, and other products, or was sent to Canada and Newfoundland and used on the fishing vessels. It was also used in trade with the Indians, although this was officially forbidden. The rum-distilling industry was localized in New England, especially in Massachusetts, Connecticut, and Rhode Island; the wealth of Newport was derived largely from the rum and slave trade.

Various *other industries* existed in the colonies at an early period, and were gradually developed to meet the growing wants of the people. Many of these were household industries, or were conducted on a small scale for local needs. Such were soap- and candle-making, which were carried on in every household; furniture and cabinet wares, made to order in little shops by cabinet makers whose skill and honesty in workmanship are attested by the many fine pieces still in use; wagons, carriages, and carts constructed by local wheelwrights; coopers' wares, brass or copper wares, and tinwares manufactured in workshops of a more specialized character; cordage, twine, and sailcloth, also beyond the household stage, salt works to supply the needs of the fisheries and for meat packing.

The number of handicrafts is surprisingly large if contemporary accounts are to be trusted. Writing in 1647, Edward Johnson, in his *Wonder-Working Providence*,⁵ mentioned six wood-working trades, seven metal-working

⁴ Lord Sheffield, *Observations*, pp. 109, 112.

⁵ Vol. III, ch. VI, 248; Clark, 163.

trades, and three forms of leather manufacture, besides weavers and ropemakers, feltmakers and furriers, brick-makers and tilemakers, and other minor industries. A Pennsylvania writer⁶ mentioned fifty-one manufacturing handicrafts, besides the building trades, as followed in Philadelphia fifty years later. This list included, in addition to the industries already described, such workers as tailors, hatters, button-makers, wig-makers, stocking-weavers, snuff-makers, gunpowder-makers, and silversmiths.

In spite of the long list of trades and industries carried on in workshops and mills, it is necessary to emphasize the extent to which northern farms and even southern plantations provided for their own needs. The colonial household was self-sufficing to a degree which it is difficult for us, living in an age of specialization, to picture. Most of the clothing and household linen was made at home, furniture and many farm tools were the product of household manufacture, food and drink were grown on the farm and prepared there for home consumption.

Government regulation of industry.—Colonial industries did not all develop as a result of free choice or spontaneous growth. There were serious obstacles in the way of manufactures, such as the more urgent need for food and primary necessities, the scarcity of labor and of capital, the absence of an adequate market, the competition of the industrially more advanced European countries, and finally the opposition of the English government. Why was it that in spite of all these obstacles there occurred such a widespread and diversified development of manufacturing industry in the colonies? The influence of cheap and abundant natural resources has been sufficiently emphasized; the effect of legislation and regulation may next be noted.

The attitude of England was one of encouragement of those colonial industries which would be of advantage to her own industries and in pursuance of this end she encouraged the production of ships and shipbuilding materials, of naval stores and of iron, and directed that certain products could be sent only to England while others were denied admittance. Prior to 1660, when the most important of the Navi-

⁶ G. Thomas, *History of Pennsylvania* (Philadelphia, 1900), 32-34.

gation Acts was passed, the colonists had obtained many of their manufactures from Holland, paying for them with the raw products of the New World. The prohibition of this trade had the effect of stimulating shipbuilding and the production of ship materials in New England, and also the household manufacture of various articles which they had previously bought in the free market of Holland but which they could not now buy of England because the grain, fish, and other products of New England were not admitted into England in exchange. Of the northern colonies the Board of Trade reported⁷ in 1731, "They have no staple commodities of their own growth to exchange for our manufactures, which puts them under great necessity, as well as under greater temptation, of providing them for themselves." In the southern colonies, on the other hand, the presence of staple products which could be readily exchanged for English manufactures rendered less necessary the varied household industry by which New England supplied most of its own needs. From the standpoint of manufactures there was a sharp contrast between the colonies north of the Potomac River and those south of it.

As certain industries developed in the colonies the opposition of English manufacturers was aroused and legislation was passed to limit or prevent their growth. There were three instances of this kind. In the first case an act of 1699 forbade the exportation of wool or woollen manufactures of any sort from the colony in which they were produced to any outside market; it did not prohibit the manufacture of woollen goods, but only their export and sale in competition with English products. It thus made the colonial woollen industry essentially a household industry for home and local needs. The second instance was the Act of 1732, which attempted in similar fashion to localize the hat-making industry by providing that no hat made in the colonies could be exported to any other colony, and that only those who had served an apprenticeship could engage in their manufacture. Finally, in 1750, there was an absolute prohibition of iron manufactures. In other ways too the mother country

⁷ Report printed in D. Macpherson, *Annals of Commerce, Manufactures, Fisheries, and Navigation* (London, 1805), III, 190.

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endeavored to prevent the development in the colonies of manufactures, by forbidding the emigration from England of skilled artisans or the exportation of machinery and tools, or raw material. Such legislation appears harsh, but on the other hand, as has already been pointed out, bounties were offered for the production of certain articles which were needed in England, as naval stores, masts, and similar things.

Colonial legislatures busied themselves too with regulation of industry. If an article were needed, the inhabitants were sometimes ordered to produce it ; thus the planting of flax and hemp was required by Virginia and Connecticut, and the spinning of a certain amount of yarn by each family was prescribed by a Massachusetts law of 1655. Generally, however, production was stimulated by offering bounties. Particular encouragement was given to the cordage and linen industries, and bounties were offered for the growing of hemp at one time or another by Maryland, Virginia, North and South Carolina, Pennsylvania, New York, and New Jersey ; and for the growing of flax by Maryland, South Carolina, and New Jersey. Bounties on linen and linen thread were also granted by several of the colonies. The production of duck and sailcloth was especially promoted in New England, but it was thought unwise to offer bounties for woollen manufactures after the Act of 1699 for fear of English reprisals. In some of the colonies the English bounties, as on shipbuilding and naval stores, were paralleled. Sometimes land grants or subsidies were given to reward persons who would set up needed industries, as salt works, iron works, fulling mills, tanning plants, grist and sawmills, and other establishments ; most of these were in New England.

Import or export duties were imposed by the colonial legislatures in nearly every colony, but as these were usually for revenue, sumptuary, or retaliatory purposes, they will not be discussed in this connection. Tariffs were a very minor factor in determining the development of colonial manufactures.

Conclusion.—During the colonial period manufactures were still largely in the handicraft stage, and goods were produced primarily for local and home use. Manufacturing

proper, that is, the production of goods outside the home for sale in the market or for export, never developed very far. Even Bishop, the diligent historian of American manufactures, admits that the history of the efforts made during the first one hundred years to introduce the manufacturing arts into the American colonies, is "little more than a record of unsuccessful enterprise." Such industries as were carried on were removed only a few steps from the extractive industries which furnished the raw materials; they were apt to be an adjunct to these latter, which absorbed most of the energies of the settlers and yielded the largest immediate returns. Many of the colonial industries were carried on in the home and were household industries rather than manufactures. In the busy life of the colonists these industrial activities must have crowded agriculture closely, yet there were few who devoted themselves exclusively to these pursuits. The development of pure manufactures was seriously handicapped by conditions in the colonies.

Since the colonies were poor there was always a lack of capital. Skilled labor was also wanting, for the best artisans probably did not migrate to America, and it must be remembered that in the pre-machine age the skill of the worker, acquired only by long apprenticeship, was a fundamental condition of industry. Of importance also were the absence of considerable markets, owing to the sparseness of population, the insufficiency of money and of means of transportation, and the lack of technical knowledge. In such circumstances there could be no division of labor or high degree of specialization and costs remained high.

The direction of colonial industries was determined primarily by economic considerations. British regulation and colonial legislation deflected the colonists only slightly from the lines dictated by environment and opportunity. The pioneer settler, faced by immediate necessities, understood his own needs better than did legislative bodies. Household rather than social economy dictated the kinds of production carried on. When the conditions of pioneer life are considered one cannot help but be impressed by the progress made, for the colonists were engaged in the triple task of earning a livelihood, accumulating capital goods, and raising

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their standard of living. That they succeeded along all three lines is evidence of unremitting industry and great native ability, as well as of a favorable environment.

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CHAPTER IV

POPULATION AND LABOR

The growth of population.—The growth of population in new colonies, especially when these are far distant from the mother country, is naturally slow. In the early American settlements the mortality was so great that the population had to be maintained by immigration, and the total number of settlers in the country was less than the sum of the immigrants. There was a considerable influx of English into New England during the troubled period 1630–1640, when Cavalier and Roundhead were struggling for supremacy in England, and in 1640 there were estimated to be 25,000 whites in British North America, of whom sixty per cent were in New England and most of the rest in Virginia. The next twenty years saw an exodus of Cavaliers from England, most of whom settled in Virginia, so that by 1660 the population had increased to 80,000, of whom half were in Virginia and Maryland. From this time on the middle colonies began to gain somewhat in importance, and in 1688 had about one-fifth of the then population of 200,000.

But while the population was gaining in size, it was also growing in diversity, for other racial elements than the English were coming in. The Dutch had settlements extending from Fort Nassau (now Gloucester, New Jersey), some four miles below Philadelphia, to Fort Orange (now Albany, New York). They conquered the Swedes who had already established themselves on the lower Delaware, but in turn submitted to the English in 1664. The wars waged by Louis XIV of France (1643–1715) in central Europe, which devastated the country and decimated the population, forced thousands of settlers from the Palatinate, Alsace, Swabia, Saxony, and other principalities to seek refuge in this country. William Penn made special efforts to attract them, and so great was the immigration of Germans into Pennsylvania

that in 1766 Benjamin Franklin estimated that one-third of the inhabitants of that colony were of German nationality, and another third were English Quakers. French Huguenots, denied an asylum even in the French Canadian colonies after the revocation of the Edict of Nantes (1685), added a valuable element to the already mixed population. A more rapid growth occurred in the eighteenth century. This included some new racial additions, of whom the most notable were the Scotch and Scotch-Irish. The immigration of Welsh and Irish was smaller. A round half-million seems to have been reached in 1721 according to Bancroft, and a million in 1743; by 1768 the two million mark had been passed.

How much of this increase was due to immigration and how much to natural increase, it is impossible to say, but in view of the dangers and difficulties of emigration, it is probable that after the first settlements the increase was mainly natural. The objections of some of the European governments to the emigration of their citizens, the poverty of the people, the expense and dangers of the long voyage, the uncertainties and hardships of life in pioneer settlements, and the tales of suffering by disappointed settlers—all operated to deter all but the bravest spirits from attempting to better their lot in the New World.

Franklin, when he estimated in 1755 that there were "near a million souls" in the colonies, thought that scarce 80,000 had been brought over by sea. On the other hand, every encouragement was given to the natural increase of the population. Subsistence was cheap, there was plenty of land for all comers, and a large family was an asset rather than a burden because even children could aid in the work to be done. Peter Kalm,¹ the Swedish traveler, collected some remarkable cases of large families, of which one may be cited: In 1739 Mrs. Marcia Hazard died at South Kingston, aged 100. "She could count altogether 500 children, grandchildren, great-grandchildren, and great-great-grandchildren; when she died 205 persons of them were alive."

As a result of the absence of any economic check to propagation, the population doubled about every twenty-three

¹ *Travels into North America*. Cited in Bogart and Thompson, *Readings*, 110.

years, and this in spite of a tragic infant mortality which probably ran as high as forty per cent. The majority of this population was of English stock, and where the racial elements were diverse there was a steady and on the whole successful pressure to assimilate them into a unified whole. In 1775 Bancroft speaks of the colonies as inhabited by persons only "one-fifth of whom had for mother-tongue some other language than English." In New England, where the population was most homogeneous, it was computed that at the time of the Revolution ninety-eight per cent of the population were Englishmen or of unmixed English descent.²

Spread of population.—The distribution of the population differed from time to time. The first settlements at Jamestown and Plymouth were widely separated, but by the close of the seventeenth century the gap had been filled by the settlement of Pennsylvania and New Jersey, while the southern limit had been extended to South Carolina. At the same time settlers had pushed up the rivers into the interior in New England, New York, and Virginia.

During the eighteenth century the first westward movement carried the frontier of settlement to the crest of the Appalachians, while Georgia was added to the settled area on the south. By 1754 the white population of New England was 425,000; of the middle colonies, 353,000; and of the southern, 387,000. The Negro population of the three sections was 14,400, 27,500, and 222,000 respectively. The population was still almost entirely rural and there were as yet no large cities. Philadelphia, the largest city in the colonies, had only 10,000 inhabitants, Boston 7000, and New York 5000.

Fortunately for the English colonists they had settled in a part of the country which afforded the geographic isolation necessary for the development of national life. The mountains and the ocean formed at first the natural boundaries of their settlements, and also served as frontier defenses against the French and the Spanish.

² L. C. Gray estimates that in 1790 the English, Scotch, and Irish together made up 92.9 per cent of the white population in Maryland, 94.1 in Virginia, 96.6 in North Carolina, and 96.7 in South Carolina.—*History of Agriculture in the Southern United States to 1860*, p. 93.

When the colonists needed an outlet for their energies they found it by way of the ocean. Farther south the larger available area and the extensive methods of tobacco culture, together with the large use made of "head right" in obtaining land, led to a wider dispersion of the population. In general, however, the colonists were held compactly together, and their close contiguity developed a spirit of union and a feeling of solidarity. When disaffection toward the mother country developed they acted together with a unanimity which would not have been possible if they had been dispersed over a continent.

The independent proprietor as a worker.—In a new country the tasks to be performed are so many that labor by contrast always seems scarce. This was certainly true of the colonies, where the demand for labor was exceptionally great. To clear the land of trees, stumps, and stones, to cultivate the fields with the clumsy agricultural implements, to guard the growing crops against weeds and cattle, to produce food, to make clothing and household necessities, to cut roads through the forests, to build houses and barns, and perhaps to repel the attacks of hostile Indians—all these called for unremitting toil of the severest kind. The insufficiency of the labor supply when confronted with so many and such urgent tasks was accentuated by the scarcity and poor quality of the tools which made necessary a greater reliance on hand labor.

The main source of labor in New England and the middle colonies was the skill and muscle of the colonist himself. On the small farms of the North the proprietor cultivated his own land, with the help of members of his family. In such circumstances a large family was an asset, for it furnished needed laborers. This labor supply was of a high order, for it was composed of selected and energetic individuals who had ventured to the New World to establish homes for themselves. But they probably lagged behind their contemporaries in Europe in technical knowledge and improved tools; it may be doubted, therefore, whether they were any more efficient.

In one respect the independent proprietor showed great ability—in organizing the factors of land, capital, and labor in his capacity as enterpriser. Though the labor at his dis-

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posal might be that of only himself and his family, he exercised skill and resourcefulness in combining it with the other factors of production so as to make it as efficient as possible. Owing to the scarcity of laborers who could be hired to work for pay, it was a general practice in New England and the middle colonies and to a less extent in the South for the colonists to exchange labor with one another. Were a house to be erected, a barn to be raised, or a ship built and launched, the settler called upon his neighbors to assist him in the larger operations that were beyond his strength or skill, or that called for the associated effort of several workers. The typical event which called for this co-operative system of labor was a house- or barn-raising; this was made a social occasion, the women attending to provide a bountiful repast, while the men strove with one another in a spirit of emulation. It did not take long at such a time to erect the frame, rafters, and ridge-pole of a building, while the event made a happy break in busy lives. Later, the more usual method for a man who wished to build a house was to agree with a carpenter or mason for so many days' work, the owner working with the more specialized craftsman and under his direction.

While labor was still very scarce and even the voluntary co-operation of neighbors could not always be depended on, legislation provided for the impressment of labor for such necessary services as harvesting crops. In New England artificers and mechanics might be compelled by the constable to leave their crafts and assist in the harvest fields of their neighbors. The obtaining of the food supply thus ranked in importance with military protection. In the South there was a larger proportion of servants—under which term was included not only hired laborers, but also apprentices and indentured servants—and consequently the exchange of labor among independent proprietors or plantation owners was never so important.

The typical independent settler depended upon himself alone for most of the things which needed to be done and was of necessity a jack-of-all-trades. With the growth of towns there was increasing opportunity for division of occupations, but the farmer in the rural districts had to be a jack-

of-all-trades throughout the whole colonial period. Even in the towns a man was accustomed to turn his hand to almost anything that offered. Weeden gives an account of one John Marshall, who was a good typical specimen of such laborers. He "received about 4 shillings a day at Braintree from 1697 to 1711. He farmed a little, made laths in the winter, was painter and carpenter, was messenger, and burned bricks, bought and sold live stock. He was a non-commissioned officer in the Braintree Company, and a constable of the precinct. In one day he could make 300 laths."

Free artisans.—As population increased and towns grew up there appeared a class of free artisans who worked for hire. This class included carpenters, masons, tilers, millwrights, wheelwrights, ship-carpenters, thatchers, and many others. Some of the immigrants who came to the colonies were without means or lacked the energy to engage in industry or farming on their own account, and therefore hired themselves out as free laborers; but their number was never very large. Moreover, the abundance of free land and the large returns to the cultivator tempted most men to become independent farmers on a small scale rather than remain hired laborers. The proportion of free laborers differed in the various colonies, but was always greatest in New England, where slavery had the slightest foothold and where industry was the most diversified. Apprentices came in time to be associated with the master artisans, as a method of recruiting and training the younger generation of craftsmen. Apprenticeship existed in the colonies much as in England and was regulated by statute. On account of the scarcity of labor, the term was frequently reduced below the usual seven years, half-trained artisans began to labor as journeymen, and sometimes workmanship suffered.

In spite of the scarcity of labor, wages of hired workers were held down by legislation. In accordance with English custom provision was made for fixing wages and prices by law, or giving the town authorities power to fix wages.

Indentured servants.—Another result of the scarcity of labor in the colonies was the development of schemes for obtaining a more or less permanent labor force, either by paying the cost of transporting servants to the colonies, or

by buying the persons of the workers. The former gave rise to the system of indentured servants, and the latter to that of slavery. The indentured servants fell into two groups, voluntary and involuntary; the former were those who came to this country of their own free will, while the latter were sent regardless of their wishes.

The voluntary servitude of indentured servants was based upon a free contract with a company or an individual for a definite term of service in return for the payment of the servant's transportation to America and his maintenance during the period of service. The indentured servants were free persons who migrated for the purpose of improving their condition, but who, not being able to pay their passage, sold themselves into temporary bondage to the person advancing the money for this purpose.

At first they came chiefly from England, but later large numbers were brought over from Ireland, Scotland, Wales, and Germany. So eager was the colonial demand for these servants that a regular business soon developed in England for supplying them, of which London and Bristol were the centers. It was carried on by merchants engaged in the colonial trade, by shipmasters, or by emigration brokers, who assumed the expense of transportation in the sure prospect of reimbursing themselves with a profit when the bond servants were landed in America. So great indeed were the profits that soon an illicit trade sprang up and thousands of children and even adults were spirited away by so-called "crimps." Ten thousand persons were said to have been "spirited" from England in 1680 by kidnapers.

The length of the term of service fixed by the indenture³ was a matter of contract, and differed from time to time and from one colony to another. The services of the transported servants were sold by the shipmasters to the employer. In Maryland there seems to have existed a variation in the so-called "free-willers," who were allowed a certain number of days in which to dispose of themselves to the best advantage; failing in this their services were sold in the usual

³ This name was given to this form of contract because it was usually written in duplicate on a large sheet which was separated into halves by a jagged cut, called an indent.

fashion. The cost to the purchaser averaged about £10 to £12. In general, the servants transported before 1650 were bound for long terms of from seven to ten years or more; after the settlement of New York, New Jersey, Pennsylvania, and the Carolinas, the demand increased and the term of service was reduced to four years. As the business of transporting bond servants grew, the contract or indenture received legal recognition, and its terms were stated with more definiteness. The personality of the servant was recognized by the statutes, a feature which was not true of the slave, so that before the law and the courts his position was little different from that of the freeman.

Involuntary servitude.—The other group of indentured servants consisted of persons who were condemned to servitude in the colonies for some offense. This class was composed principally of paupers, vagrants, "loose and disorderly persons," and criminals, who were sent to the colonies by royal order or court sentence, or later by judges under the English penal statutes. The transportation of these persons to America seems to have been dictated at first largely by motives of humanity. There were at this time three hundred crimes in the English calendar for which capital punishment was inflicted, and justices often mercifully substituted transportation for death; at the same time the need of men in the colonies afforded an excuse for evasion of the death penalty.

During the eighteenth century, by virtue of acts of Parliament, a convict was permitted to have his sentence commuted, in case of the death penalty, to fourteen years' service, while a seven years' service might be substituted for whipping and branding. While most of the convicts thus sent over were convicted of some crime, many of them were guilty of nothing more serious than debt, and some were political prisoners who had engaged in some rebellious movement.

Acts were passed by the colonies designed to prevent the importation of convicts, and in 1671 came an order in England to put an end to the traffic. It seems not to have been observed, however, and in 1717 Parliament enacted a statute against the protests of the Virginia merchants providing for

the transportation of convicts to America. Between this date and 1775 some 40,000 such persons were sent to America. The provinces of Virginia and Maryland received most of these convicts, although they were not unknown elsewhere. Many of the planters preferred their services to those of the bond servants, as their terms were longer and their rights fewer.

It is impossible to state the proportion of laborers belonging to the two classes, but the indentured servants were undoubtedly in the majority. Fifteen hundred a year is the estimate of Berkeley for Virginia in 1664; in this same year there were in Virginia six thousand servants as against two thousand slaves. Commons estimates that probably one-half of all the immigrants of the colonial period landed as indentured servants.

Treatment of servants.—The treatment of servants was as varied as the character of the masters. At first, a sort of good fellowship existed between masters and men, but as the numbers became greater their relations were regulated more definitely by statute. The general condition of the bond servants was certainly a hard one, as is shown by the character of the laws to protect them. No servant could be sold out of the province in which he agreed to serve, without his consent; he must be furnished with sufficient and wholesome food, clothing, and lodging—it appeared that the food allowed was often a coarse diet of Indian meal and water sweetened with molasses, while lodging and clothing were poor and insufficient. Finally, the law provided that if a servant fell ill during his service, he must be cared for; the sick servant was often neglected, lest the doctor's charges exceed the value of his remaining service. The servant was also protected against unjust cruelty and bodily maiming; it must be remembered, however, that this was an age of flogging, and corporal punishment was meted out to soldiers and sailors, criminals, and children as well as servants.

On the other hand, the interests of the master who had invested his capital in servants were even more carefully protected. The great danger to which he was exposed was the loss of runaway servants, who fled to escape service or were tempted away with higher wages by rival employers. Both

the runaway and those who harbored him were punished by severe penalties. Ordinarily a servant who ran away was compelled to serve double time for the period missed.

Economic appraisal of system.—The importation of bond servants into the colonies under the system of indenture was a helpful solution of the existing labor problem, and was advantageous from many points of view. Conditions in Old England seemed to make it desirable to encourage the emigration of a surplus population. This system made it possible for the emigrants to finance their transportation by the only way open to them, that of exchanging their labor for their passage. It afforded many persons a method of escape from miserable conditions at home and gave them a chance to share in the opportunities of the New World.

While at first many of these laborers belonged to the lowest industrial group, some of them were skilled artisans, and a few belonged to the educated class. To the capable and industrious the future was assured. At the end of their terms of service the indentured servants generally became free laborers or independent proprietors and were merged in the white population of the colonies, becoming often highly respected citizens.

In Pennsylvania and New Jersey redemptioners, that is indentured servants whose terms had expired, were granted fifty and seventy-five acres of land to cultivate in their own right. In the southern colonies "freedom dues" consisted of clothing, tools, and a store of food, costing the master from £5 to £10 at the end of the servant's term. Another advantage of the system was that it generally had the effect of an industrial or agricultural apprenticeship, and provided for the training and assimilation of a large mass of newcomers under unaccustomed conditions. Some indeed there were who "have enough money to pay for their passage, especially Germans, yet will not pay, but choose to be sold in order to have time to gain a knowledge of the language and the manner of living in the country."⁴

From the standpoint of the employers also the system had great advantages. In the first place, it permitted the organization of labor under intelligent direction for definite pur-

⁴ *American Husbandry* (London, 1775), I, 170.

poses. The long terms of service with contract labor introduced an element of certainty, which was very important for those undertaking rather hazardous enterprises in a new country, the return from which was distant. This was especially true of larger undertakings like tobacco-growing. For these reasons indentured servants were generally preferred to free laborers. Until well into the eighteenth century, when it was gradually supplanted by slavery, this system furnished the larger part of the labor supply of Pennsylvania, Maryland, and Virginia.

Certain disadvantages inhered in the system : the moral influence was not good ; the immorality of women servants was a subject of frequent complaint and legislation ; the kidnapping and sale of children was indefensible ; and the abuse of power by harsh or greedy masters was difficult to prevent. On the whole, however, the balance was decidedly in favor of the system. Ballagh, writing with special reference to Virginia, sums the matter up fairly as follows :⁵

"Designed not merely as a labor supply, but as an immigration agency, it had generally the effect of industrial apprenticeship, greatly strengthened the position of capitalist employers, and developed a class of industrially efficient free-men. It supplied almost the entire force of skilled labor in the colonies for more than half a century and continued to be a source of high-grade labor long into the eighteenth century. It provided for the growth of a strong yeoman class and prevented the absorption of land into great estates ; and it furnished a great number of independent settlers and citizens, particularly for the back country ; it had a marked effect on the political as well as the economic development of the country."

Slaves in the colonies.—One other answer was given to the problem of labor scarcity in the colonies, and that was by the institution of human slavery. The native Indians were enslaved by the white settlers, not only in Spanish America but also in Cavalier Virginia and Puritan New England. They proved poor workers, however, and their place was soon taken by Negro slaves. This solution of the labor problem was much more important and far-reaching

⁵ *White Servitude in the Colony of Virginia.*

in its effects than the institution of indentured servants, which was transitional and temporary ; but slavery did not occur on a large scale until white servitude had nearly run its course.

Slavery and the slave-trade have existed ever since a settled life made the compulsory labor of captives more desirable than their extermination. It had been found among all ancient peoples wherever the land was abundant as compared with the supply of labor ; but in medieval Europe it was modified to serfdom, and was gradually dying out as the population became denser and the necessity for compulsory labor passed away. With the discovery of the New World, however, the old problem was again presented. Negro slavery still existed in Africa and since about 1482 a regular traffic in slaves had been carried on by the Portuguese between Africa and Europe. There was little place for slaves in Europe, however, except in the domestic service of the wealthy, but with the discovery of the New World there was opened a new field for their labor and a new opportunity for their disposal. The immediate purpose of colonization was the exploitation of a continent. But for this purpose labor must be had. The early colonists, especially the Spanish, were too impatient to wait for the slow process of filling up the land by settlement ; they wished immediate returns. Slavery offered one solution of this problem.

When Spanish slave-holders emigrated to the West Indies, they took their Negro slaves with them, and while at first these were limited to those instructed in the Christian religion, the development of gold-mining and sugar-growing and the consequent need for labor soon broke down this restriction. The native Indians, too, were enslaved, but proved ill adapted to the hard labors required by their severe taskmasters. Later, when the silver mines of Mexico and Peru were discovered the islands were all but deserted and these new resources were exploited with native labor. But the Indians were even less fitted to this work in the mines than on the plantations and died off as if by the pestilence. It was then that a Spanish priest, Las Casas, as a sheer act of mercy suggested that Negro slaves be imported to take the place of the disappearing natives ; this was done in 1520. At first

the slave trade was carried on by the Portuguese and Spanish but later the Dutch and English (1562) engaged in the traffic. Thus for a century prior to the settlement of the Jamestown colony slavery had existed in the West Indies and a regular traffic in slaves had developed between Africa and the islands of North America. It was very naturally introduced into the English colonies on the continent from the West Indies; later, a direct trade with Africa sprang up.

Slavery in the English colonies.—The first Negro slaves in the English colonies are generally said to have been landed at Jamestown in 1619 by a Dutch⁶ privateer; the number increased but slowly, and in 1671 there were only 2000 slaves in Virginia out of a population of 40,000. In that year a band of English colonists from the Barbados, where sugar-growing with slave labor under the plantation system had been successfully carried on, settled in Charleston, South Carolina, where they hoped to introduce sugar culture. When this proved impossible the settlement languished until the resource of rice production was discovered in 1694. This gave an economic basis for slavery, which now developed rapidly.

With the introduction of rice culture the plantation system with slave labor was copied from the West Indies and the importation of slaves became rapid. The addition of indigo as a supplementary staple, about 1745, gave another resource adapted to slave labor and intensified the system. "The typical estate came to be a plantation with about thirty working hands, cultivating rice in the swampy lands and indigo in the drier fields, in a steady routine which lasted nearly the whole year through. The nature of the climate and the work to be done precluded, as in Jamaica, the use of any but Negro labor in the gangs. The prevalence of malaria in the hot months caused most of the planters to abandon their estates for much of the year to the care of overseers and foremen. In contrast with this, the usual type of estate in the Virginia plantation districts had only five or ten working hands, of whom part were likely to be white

⁶ For the controversy as to the responsibility for first introducing slaves into the English continental colonies, see J. C. Ballagh, *Slavery in Virginia*, 8 n.; A. Brown, *Genesis of the United States*, II, 886; P. A. Bruce, *Economic History of Virginia*, II, 67 ff.

redemptioners ; and the master and his family were usually on the estate the year round. . . In Georgia, the rulers of the colony tried hard to keep out slave labor ; but about 1750 had to yield to the inevitable. Thereafter the sea-island district of Georgia tended to assume the same complexion as that which the South Carolina low-lands had acquired."⁷

✓ The treatment of the slaves was more patriarchal in character in the tobacco colonies ; but in the rice fields of South Carolina, under a system of absenteeism, the worst excesses were found. The constant fear of uprisings, owing to the numerical superiority of the slaves, and their propensity to run away, led here to the harshest legislation against them. Herded together in gangs, with few women and no home life, they showed slavery at its worst.

The slave trade.—The slave trade developed with the growing demand for slaves until it came to be one of the important branches of colonial commerce. ✓ At first most of the slaves were supplied by the Dutch, but after 1630 the English took an active part in the trade and in 1672 organized the Royal African Company, to which a monopoly was given ; after 1688, however, as a result of protests by English traders and American shipowners, the trade was thrown open and many colonial merchants engaged in the traffic. The first shipload brought into Massachusetts was indeed returned at public expense, but as the slave trade increased in volume and importance the early scruples were overcome by profits obtained.

The explanation of the prominent place held by the slave trade in the commerce of the northern colonies is to be found in the intimate connection of this traffic with the West Indian trade and with the manufacture of rum. A three-cornered trade was developed in the eighteenth century in accordance with which molasses was brought from the West Indies to New England, where it was manufactured into rum ; this, together with some other articles for barter like iron utensils and textiles, was taken to Africa and exchanged for slaves and perhaps gold dust and ivory ; the slaves were

⁷ U. B. Phillips, "Plantation and Frontier," in *A Documentary History of American Industrial Society* (Cleveland, 1910), I, 81.

transported to the West Indies or the southern colonies, where they were sold.

A sturdy male slave could be bought on the Gold Coast in 1749 for £10 and sold for £30 in the British West Indies, but in 1776 a similar Negro cost £28 and sold for nearly £50. Those brought direct to the southern colonies were frequently paid for with commodities, as rice and indigo or tobacco or cotton, and the prices of slaves fluctuated with the prices of these commodities. The trip between Africa and the West Indies was called the "middle passage," and was attended by frightful suffering and mortality of the slaves. Newport was the largest slave market, though the slave trade was also carried on from Boston, Salem, New York, and other places. Many colonial fortunes were based upon this trade, and even so respectable a citizen of Boston as Peter Faneuil owned a slave ship.

It is difficult to ascertain, even approximately, the number of Negroes whom the slave-traders carried off from Africa and brought to America. Johnson⁸ estimates that during the fifty years preceding the Revolution the annual importations into the continental American colonies "must have averaged 10,000, and possibly much more than that number." As a result of these importations and of the natural increase of the resident slave population, the number of slaves in the colonies grew steadily—from about 59,000 in 1714 to 293,000 in 1754 (Bancroft) and to 386,000 in 1760 (Channing); the first federal census of 1790 showed a total of 697,877 in the country.

✓ **Attitude to slavery.**—Slavery existed in all the colonies, but to a very different degree in different sections. In New England it had obtained the smallest foothold and was disappearing, not so much by reason of a moral sentiment against it as because, owing to the varied industrial and commercial development of that section, it was economically unprofitable. The Quakers of Pennsylvania were opposed to slavery, but in New York and New Jersey, from eight to ten per cent of the population was composed of slaves, who were treated with great leniency. South of Mason and Dixon's line the situation was quite different. Of the

⁸ *History of Domestic and Foreign Commerce of the United States*, I, 102.

386,000 slaves in the colonies in 1760, over three-fourths lived in the South; the proportion in the different colonies varied from fifteen per cent of the population in North Carolina to fifty per cent in Virginia, and seventy per cent in South Carolina.

✓ The colonists were at first opposed to the introduction of slavery and various acts were passed, in Massachusetts and Pennsylvania, in Virginia and Maryland, in South Carolina and Georgia, forbidding or restricting it. Among the English, however, by whom the slave trade had already long been carried on with the West Indies, there were no such scruples. About 1663 a British Committee on Foreign Plantations declared that "black slaves are the most useful appurtenances of a plantation." Seventy years later the Lords Commissioners for Trade and Plantations stated that "the colonies could not possibly subsist" without an adequate supply of slaves. Laws passed in the colonies to restrict the slave trade were generally disallowed by the crown, and royal governors were warned that the colonists would not be permitted to "discourage a traffic so beneficial to the nation." Gradually, as it was seen to be profitable, the objections of the colonists died away, and there was little scruple about owning slaves or engaging in the slave trade, except among the Quakers of Pennsylvania.

Economic appraisal of slavery.—Regarding slavery solely as an economic institution and as a method of supplying quickly the necessary labor in the colonies, some justification can be found for the point of view held in the seventeenth and eighteenth centuries. The advantages lay all with the slave owners, for the wishes and well-being of the slave were not taken into consideration and we are not here concerned with the unrighteous profits made by the slave traders. Slaves were preferred to hired laborers and even indentured servants, for their terms of service were for life and their children also became the property of their masters. There was thus no interruption to the work by reason of the departure of the worker. The cost of maintenance of the slave was less than that of the white servant, and there were no "freedom dues" to be paid at the end of his term of service. ✓ And finally, the management of the slaves

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was easier, for the Negroes were usually more docile and tractable.

Southern agriculture demanded little beyond physical strength, endurance, and the ability to use simple tools. In the hot pestilential rice fields the Negroes were practically the only laborers who could endure the climate, and in this case a remarkable combination of circumstances brought to the work men adapted to it. For untold centuries the Negroes on the Guinea coast had lived in steaming hot jungles, and here they had developed immunity to malaria and other diseases to which the white man is susceptible. Brought from the Congo River to the swamps of South Carolina they suffered no loss of health, but were able to live under conditions insupportable by white laborers. Had it not been for this circumstance rice culture would probably have ceased, or its methods would have been changed.

✓ The effect of the introduction of servile labor was to aid in the rapid clearing of the land and in the production of new wealth. Without the system of slavery and the sister institution of white servitude, it may be said that the development of the South would have been much slower and very different in kind.

An interesting problem presents itself at this point, as to who obtained the labor surplus of the slave above all the costs. Gray concludes⁹ that the surplus profits accruing from slave labor were divided about equally between the slave traders and the planters, the competition of white servants tending to prevent monopoly prices on the part of the traders and the necessities of the planters leading them to bid for new Negroes about as much as they could afford to pay.

The organization and regulation of industry.—Thus far the kinds of laborers have been described, but the character and organization of industry must also be mentioned. Most of the labor was agricultural, since this was the principal occupation, but as towns grew and increased in size, industry began to be separated from agriculture and industrial workers to become more important. Industry was for the most part in the custom-order stage during the early part of the

⁹ L. C. Gray, *History of Agriculture in the Southern United States to 1860*, p. 371.

colonial period ; the home of the worker was the workshop and here goods were produced upon order from the customer. The mechanic was both laborer and merchant. Gradually, as the population increased, as towns were established, and the market grew in size, the master workman gathered journeymen about him. He also, in addition to custom or "bespoke" work, began to produce cheaper goods for sale without waiting for orders. This retail order stage had been reached by the time of the Revolution.

Besides these stationary workers there were also itinerant workers, especially in those industries which required only hand tools and skill, like the itinerant shoemaker or tailor. The itinerant worker went from house to house, where he worked up the raw material belonging to his customers in return for board, lodging, and a small wage. In those industries, however, where any considerable fixed capital was required, as in blacksmithing, weaving, baking, etc., the worker set up his own shop and the customer came to him. With the growth of population, of industry, and of better means of transportation, the itinerant mechanic tended to become a stationary worker.

So long as goods were produced only on order, as "bespoke" work, the master workman found it to his interest to turn out only good wares in order to hold his customers. But when custom work began to be displaced by "shop work," or the making of goods for sale in the general market without waiting for orders, then the danger arose that cheap and poorly made wares would be placed on the market. To guard against this, inspectors, supervisors, and other similar officers were appointed in various crafts to insure the quality of the goods produced. So, too, when master workmen began to hire journeymen, disputes over wages arose. But these were less important than the regulations of prices and quality, which were designed to protect the consumer. Perhaps the most general colonial regulation, which covered price, wage, quality and weight, was the "assize of bread." Thus Massachusetts, in 1696, provided that the weight of the penny loaf should vary according to a fixed scale as the price of wheat moved up or down, and although the bakers frequently complained that

the assize did not permit them to earn a living wage, regulation rather than competition was held to be necessary to protect the interests of the general public. This was in harmony with the mercantilistic ideas of that period.

Social institutions.—The colonists were for the most part an energetic, thrifty, high-minded, simple-hearted people. There were considerable divergencies in the different sections of the country, corresponding to differences in race, occupation, and environment. ✓ Most of the population had been drawn from the middle and lower classes, and the extremes of the Old World, whether of wealth or poverty, social rank or servile condition, were not reproduced in America. Society, removed from artificial trammels and placed in a new environment, tended to produce substantial equality.

In New England, the population was remarkably homogeneous; persevering industry, in the face of an inhospitable environment, had secured for them general well-being, unmarked by either wealth or poverty. There was essential equality of condition, though the ministry and other professions constituted a virtual aristocracy of learning and birth. The population of the middle colonies was of all the sections the most heterogeneous, being composed of several nationalities. The occupations and general well-being were similar to those of New England, but the disposition of the people was not so stern and they were more given to social amusements.

✓ The southern colonies, peopled almost exclusively by English settlers, were democratic in the beginning, but the introduction of slavery caused the stratification of the population into clearly marked social classes, at the head of which stood the large plantation owners and at the foot the Negro slaves. ✓ The character of southern agriculture and the existence of slavery dispersed the population and prevented the growth of towns, so that there was little intercourse. ✓ In general the life in the colonies was simple and often rude, with few extremes of poverty or wealth, little in the way of luxuries, but an assured subsistence as the reward of industry.

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CHAPTER V

COLONIAL COMMERCE AND EXCHANGE

Geographic conditions of commerce.—During the first half or three quarters of the first century of colonial development, agriculture was the major industry and the colonists busied themselves with cutting down the forests and extending the cultivable area. Most of the settlements were small self-contained economic units, which produced for themselves many of the articles which they consumed. Between such neighboring communities, whose products were similar, there was little occasion for trade. Trade did not develop on any considerable scale until the separation of occupations and the division of labor had proceeded far enough to create a dependence of different groups upon one another, and until the development of staples in the different sections provided the materials of commerce. But between the colonies and the parent countries trade sprang up at once, as these represented different climatic areas, vastly different natural products, and differing cultures.

Partly because of these reasons, and partly because of the geographic barriers and the physical difficulties of intercourse in an undeveloped country, foreign trade was of greater immediate importance than domestic commerce and was of greater economic significance throughout the whole of the colonial period.

During nearly all the colonial period the majority of the colonists lived within reach of navigable water ; separated from each other by dense forests and tribes of hostile Indians, they found this the safest and easiest highway. Although there are sixteen rivers in New England, the fall line of the rivers, that is the point where navigation is interrupted, is comparatively near the coast, and transportation could not be carried far up stream, except on the Connecticut

River, which is navigable as far as Hartford, forty miles from the coast. But the lack of navigable rivers was compensated by the broken coast line, which afforded many fine harbors, and by the presence of Long Island Sound whose long stretch of sheltered water permitted the residents of that section to carry on traffic with considerable immunity from the storms of the open ocean.

In the middle colonies New York had the finest tidal



THE FALL LINE OF RIVERS

Towns sprang up at the fall line of most of the rivers, owing to the presence there of water power and to the interruption to navigation at that point.

river in the Hudson, which was navigable for ocean vessels as far north as Albany, one hundred and fifty miles from its mouth. Farther south such long arms of the sea as Delaware and Chesapeake bays, together with such rivers as the Delaware, Susquehanna, Potomac, and Savannah, brought even the inland plantations within easy reach of seafaring vessels.

There were thus five principal localities of settlement from which radiated most of the colonial commerce. These were eastern Massachusetts ; the

Connecticut River valley and Long Island Sound ; New York Bay and the Hudson River ; Delaware Bay and the Delaware River ; and Chesapeake Bay with the Susquehanna and Potomac rivers. Three of these—New York, Delaware, and Chesapeake bays—were the most important gateways to the interior of the country. The two largest entrances of all into the interior, the Mississippi River and the St. Lawrence with the Great Lakes, played no direct part in the economic development of the English colonies during the colonial period, although they later became very important. Wherever a river emptied into the sea com-

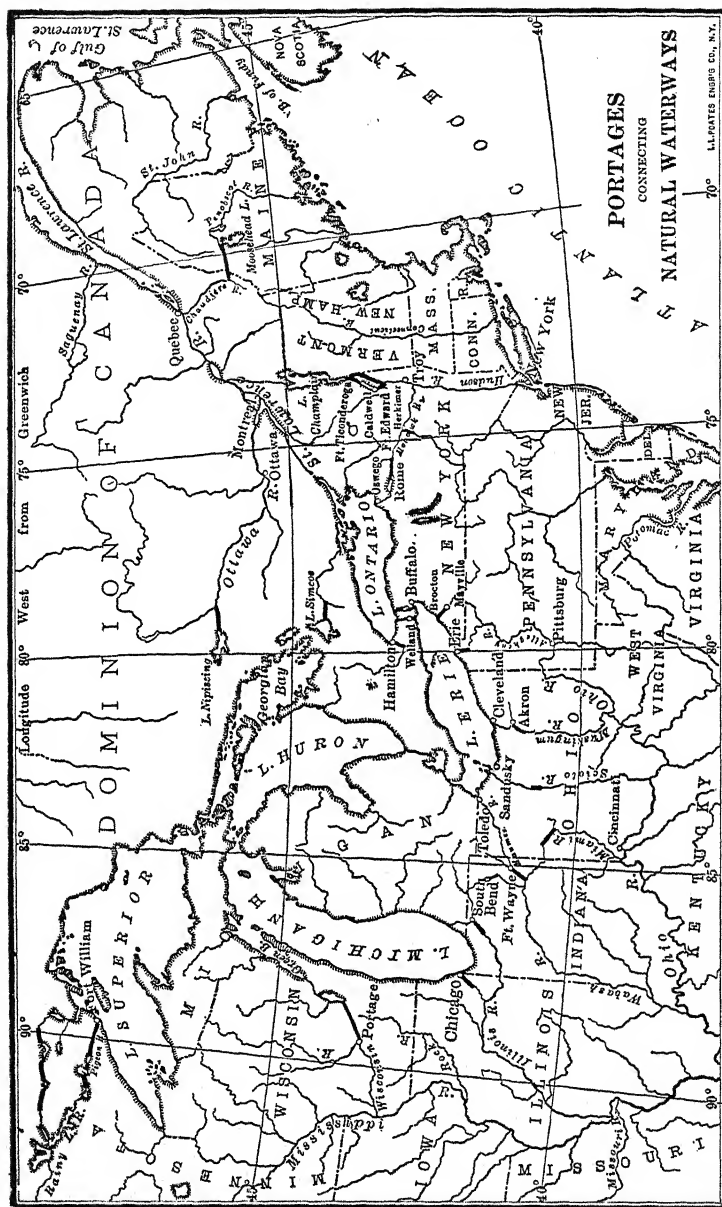
mercial seaports were established, such as Boston, New York, Baltimore, Charleston, and Savannah; and where the navigation up the river was interrupted by the fall line, there inland commercial towns sprang up, such as Hartford, Albany, Trenton, Richmond, Raleigh, Columbia, and Augusta.

Highways to the back country were of two kinds—rivers and roads. In the southern colonies, the deep, slow-flowing streams were navigable for a considerable distance from the sea, and beyond the fall line, where navigation was interrupted, there were fertile hinterlands. When trader and settler pushed toward the mountains in the colonial period they followed the river courses. With the light birch-bark canoe, the art of building which they early learned from the Indians, it was possible to penetrate far inland on the interior streams. To pass the mountains, however, it was necessary to carry the canoe with its contents from the rivers flowing into the Atlantic to those emptying into the Mississippi. The portage, as this carry between the waters was called, thus became an object of the greatest interest and value to the early colonist and fur trader. Forts were soon established on the important portages, which were always the lowest and easiest ways over the watersheds. More recently roads and railways have followed the same lines, and the original Indian portages are now marked in many places by populous cities.

Colonial roads.—In the northern colonies the Hudson was the only navigable river that led far into the interior, but the route to the west from the head of navigation was long blocked by the Indians. The Susquehanna, which penetrates farthest inland, is quite unnavigable. As the population pushed inland, other means of communication than those by water became necessary, and Indian trails were used. These followed the lines marked out since time immemorial by bison, deer, and other animals along the watersheds. "The first white men to enter Kentucky," writes Hulbert,¹ "found those roads wide enough to give thoroughfare to three wagons moving abreast. . . These pathways were the greatest asset bequeathed by the red man to the Europeans who entered our continent, untrained for the

¹ A. B. Hulbert, *Soil: Its Influence on the History of the United States*, pp. 50, 51.

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ALONG THE LINE OF THE INDIAN POSTAGES HUNTERS AND TRADERS PENETRATED INTO THE WILDERNESS AND LATER, TOWNS SPRANG UP

task of continental mastery. They not only led to the best spots for human occupation, but they also marked out the transcontinental lines upon which explorers should advance, the pathways along which armies should march, the first of the 'ridge roads' and, in many cases, the lines along which commerce and trade should flow."

Down to the time of the Revolution the roads were very poor, being constructed without system by the different localities; although in Massachusetts the General Court in 1639 had ordered each town to construct a highway to connect with that of the adjoining town. To build roads was a task of enormous difficulty in a country where forests had to be cut and marshes crossed, and where able-bodied men were so few. Roads were laid out to avoid every natural obstacle and were consequently very tortuous. Good roads were a luxury whose construction was deferred until other still more essential tasks had been performed.

It must be remembered, too, that the engineering science of road-building was not known even in England at that time; not until 1790 did McAdam and Telford build their first hard roads in that country. The colonial road was the ordinary earth road, deep with dust in summer and during the thaws of winter and spring a veritable mud slough of despond. Wagons were a rarity, but sledges were used for rough hauling; longer journeys were made on horseback. In the North it was possible to travel with comfort or to go long distances by land only in the winter, when the snow made sleighing possible.

The cost of transportation by land was enormous, and was much heavier than by water. It was usually prohibitive beyond 100 or 150 miles; except for articles of the first necessity, as salt or iron, or of small bulk, as tea; the charge for hauling a cord of wood twenty miles was \$3, for hauling a barrel of flour one hundred and fifty miles it was \$5. In such circumstances both freight and passenger traffic were infrequent and men lived and died without traveling twenty miles from the place of their residence. Communities in neighboring counties were quite isolated from each other.

Travel was not only uncomfortable and expensive, it was

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positively dangerous as well. Few bridges existed in the colonies, and the shallower rivers had to be forded, while the broader and deeper ones were crossed by means of ferries. One of the early orders of the Plymouth colony was a direction that all creeks and rivulets be bridged by felling trees across them, and that canoe ferries be established for the larger streams. It was stated in Pennsylvania at the end of the colonial period that it was not uncommon for men to make their wills before starting to a state convention. Travel by stagecoach did not become important until the end of the eighteenth century, when roads were improved; the first stage between New York and Philadelphia was not established until 1756, and the trip took three days for a distance of ninety miles. From Philadelphia one could go south to Baltimore, and from there to Savannah, by road, but to the west there were only Indian trails. When Braddock led his troops from Alexandria against Fort Duquesne (Pittsburgh), in 1755, his men had to cut a road through the wilderness.

The Indian fur trade.—Communication with the unsettled country was always important because of the fur trade during the whole colonial period. The fur trade was not carried on among the colonists themselves, but with the Indians. As wild animals abounded in the primeval forests of North America, trade in their valuable skins and furs was early developed, and throughout the colonial period remained an important frontier industry. From the Indians the traders obtained valuable pelts in exchange for blankets, shirts, hatchets, iron pots, beads and trinkets, and other manufactured articles. The colonists were forbidden by the British government to furnish the Indians with firearms, powder, or rum,² but the Indian traders refused to be bound by legislation. Trapping and fur trading were carried on in the New England colonies; Gorges and Mason got some furs from their unfortunate ventures in Maine and New Hampshire, and the Plymouth Company

² Cf. "Abstract of the Lawes of New England," 1641, in which it is provided: "In trucking or trading with the Indians no man shall give them for any commodity of theirs, Silver or Gold, or any weapons of war, either guns or gunpowder, nor sword, nor any other munition, which might come to be used against ourselves." In Peter Force, *Tracts and other Papers*, IV, no. 1x, 10 (Washington, 1844).

was able to export to London some valuable shipments of beaver, otter, and black fox furs. As the fur-bearing animals near the coast were killed off the New Englanders attempted to gain a share in the rich hunting grounds on the upper Hudson and Delaware, which were monopolized by the Dutch and Swedes. This struggle for the lucrative fur trade was a fruitful cause of dispute even at this early date between 1640 and 1660. With the decline of the fur trade in New England at the close of the seventeenth century, fishing took its place as the most important industry, and leadership in fur-trading passed to New York. This colony early became the most important fur-trading center because of its advantageous situation at the mouth of the Hudson River.

The Dutch carried on the trade largely with the Iroquois, and in 1656 Ft. Orange (Albany) alone exported 35,000 beaver and otter skins. When the province passed into English hands in 1664 the English continued the trade with the Iroquois; New York was said to be the only colony which could successfully compete with the French in this trade, and by the end of the seventeenth century peltry was one of the colony's chief articles of export. So large was the export of furs from the American colonies that the fur markets of Europe were soon shifted from Vienna and Danzig to Amsterdam, Paris, and London.

Competition between the French and the English was keen and became embittered as the latter pushed up the Hudson and along the Mohawk to the Great Lakes. To intercept the Indians who were carrying their furs down the St. Lawrence to Montreal a station was established at Oswego on Lake Ontario by Governor William Burnet in 1727, but it was found impossible to capture the French trade in this fashion.

Unlike the English, the French assimilated with the native Indians in Canada as the Spanish did in Mexico; they lived the Indian life, married Indian women, and acquired the confidence and liking of the native tribes, with the exception of the Iroquois whose hatred they had early won and who consequently favored the English. In spite of the fact that the goods which they bartered for furs were

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inferior to those supplied by the English, the French were able to gain an increasing proportion of the fur trade. William Clarke, writing in 1755,³ declared that "the first and most immediate consequence of the present measures of the French, if they are allowed to pursue them—will be the engrossing the whole Furr and Pelt trade." He estimated that the furs and pelts imported into England amounted to about £90,000 per annum, while those imported by France were no less than £135,000 per annum. The struggle over this lucrative fur trade, as the English pushed across the Alleghenies to the Ohio country and there came in conflict with the French, was one of the chief immediate causes of the French and Indian War.

A considerable Indian trade was also developed on the southern frontiers from Pennsylvania southward. Even in the time of William Penn the fur trade had been carried on by the early settlers in Pennsylvania, helped by the friendly relations established by the Quakers with the Indians. Later, as the German and Scotch-Irish settlers pushed out new frontiers they too came to have an interest in the western fur trade. The capital for this trade was supplied by Philadelphia merchants, and the profits were large. In Virginia the trade took on such dimensions that pack-horse caravans were required to carry goods to the Indian tribes on the southwest frontier, especially the Cherokees in western Carolina, and to bring back the skins and furs.⁴ In this trade William Byrd and other leading Virginians amassed fortunes which they later invested in land and slaves. But the real center of the southern trade was Charleston, from which trade was carried 1000 miles into the continent.⁵ In 1731 there were collected in that city from all quarters as many as 225,000 deerskins alone. The first fortunes in Carolina were made in the Indian trade, which was exceedingly advantageous to the English adventurer. For a few trinkets, beads, looking glasses, bright colored cloaks

³ *Observations on the late and present conduct of the French* (Boston, 1755), 14-16, quoted in Bogart and Thompson, *Readings*, p. 58.

⁴ In the South deerskins made up the bulk of the peltries, while in the North beaver, otter, fox, and other furs were usually obtained.

⁵ E. McCrady: *History of South Carolina under Proprietary Government*, 1670-1719, p. 347.

and blankets, hatchets, guns, powder and shot, and rum, he could obtain on the Savannah or the Catawba River peltries which he could sell in Charleston at many times their original cost. With the exception of rice, furs and skins constituted the most valuable export as late as 1747; in that year the exports were 200-weight of beaver skins and 720 hogsheads of deerskins, worth in our present money about \$300,000.⁶

The profitable character of the Indian fur trade would seem to have resulted, in part at least, from sharp dealing and even downright fraud in the treatment of the Indians. Governor Dinwiddie of Virginia stigmatized the traders as "the most abandoned wretches in the world." Among the abuses mentioned in South Carolina were encroachments on their lands, fraudulent transactions in buying skins, the seizure of Indian property on pretense of debt, and the demand of exorbitant prices for articles of trade (including contraband rum). Partly because of these abuses and the need of better control of the Indians with a view to public safety, and partly because of the enormous profits, the Proprietary Government in South Carolina assumed direction of this trade in 1716, and conducted it thereafter as a great public monopoly. Treaties were made with the Indian tribes, the boundaries of the lands between them and the English settlers were marked, and weights and measures to be used in trade with them were regulated.

But the English were not the only nation which coveted this lucrative trade. In the area between the Appalachian mountains, the Ohio and Mississippi rivers, and the Gulf of Mexico the Indians came in contact with Frenchmen from Louisiana, Spaniards from Florida, and Englishmen from Virginia and the Carolinas. This triangular competition among Spaniards, Frenchmen, and Englishmen for the Indian trade and their efforts to obtain the alliance of the southern Indian tribes for the purpose of controlling this trade, was an important but generally neglected phase of the struggle for power in North America among these three

⁶ E. McCrady: *History of South Carolina under the Royal Government, 1719-1776*, 270. Each hogshead contained on the average 850 skins, giving a total of 612,000 deerskins.

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European nations. The English fur traders welcomed the settlement of Georgia in 1732, for this colony would serve as a military garrison against the Spaniards and as a base for the southwestern fur trade. Augusta soon became a general resort for Indian traders. It was estimated that soon after its establishment in 1735 there were purchased of the Indians in a single year two thousand pack-horse loads of skins and other articles.⁷ In 1768, the year of largest export, shipments were 306,000 lbs. of deerskins and 40,000 lbs. of leather.⁸ Indeed, this southern trade was in skins and leather rather than in furs.

The fur trade possessed great economic significance in the early history of this country, because it furnished a ready, cheap, and yet valuable article of use and of export for the colonies. Due to the disparity placed upon the value of the furs by the Indians and the white traders in terms of the commodities bartered by the latter, the trade was enormously profitable to the white man during the whole of the colonial period. It had an even more profound effect upon the Indians, for it completely disrupted their somewhat sedentary agricultural organization; furnished with fire-arms and later with horses, the Indian became a hunter and a nomad.

But more than this, it furnished the initial incentive to westward exploration and settlement. The trader brought back from his wanderings glowing accounts of the rich lands which he had seen and thus stimulated a movement to the most desirable western lands. As population became more dense and game more scarce, the fur traders followed the retreating supply of fur-bearing animals across

⁷ C. C. Jones, Jr., *Hist. of Ga.* (Charleston, 1883), I, 143, 217.

The following prices were agreed upon between Oglethorpe and the Creeks, and probably represent maximum prices paid for skins:

1 White blanket	1 buckskin	1 knife	1 doeskin
1 Blue blanket	5 buckskins	1 hoe	2 buckskins
1 White shirt	2 buckskins	1 axe	1 buckskin
1 gun	10 buckskins	1 small hatchet	1 buckskin
1 pistol	5 buckskins	18 flints	1 buckskin
2 measures of powder	1 buckskin	Brass buttons, per lb.	1 buckskin
60 bullets	2 buckskins		

Doeskins were estimated at half the value of buckskin.

⁸ B. Romans, *A Concise Natural History of East and West Florida* (London, 1775), 104.

the Alleghenies and farther west. The trading posts were taken over by the more permanent settlers and the frontier was pushed by the hunter and trapper ever farther from the coast. The history of North American expansion, it has been said, might almost be written in terms of the fur trade. Certainly there is to be found in the struggle for the control of this trade one of the causes for the expulsion of the French from this country by the English. In order to secure the diminishing supply for her own use, England in 1764 placed hides and skins on the list of enumerated articles. In 1770 the exports of furs and peltries from all the North American English colonies, including Canada, were valued at about \$670,000.

Intercolonial trade.—Although the Indian trade penetrated far into the interior, most of the continental intercolonial trade was carried on by water along the coast. This became increasingly important during the colonial period, and was probably greater in volume though less in value, than either the trade to Great Britain or that to the West Indies.

Owing to the Navigation Acts, however, discussion of colonial commerce has usually been confined to overseas trade and the domestic trade has been neglected. Both the geography and the products conspired to cause the development of intercolonial trade, especially in the northern and middle colonies. The fur trade, just described, was carried on by a large number of traders, operating with small capital, and was very diffused; it was necessary therefore to collect the furs from scattered posts both inland and on the coast. Many other articles, like the dried and salt fish of New England, the cereals and meat of the middle colonies, or the tobacco, hides, and naval stores of the South had similarly to be brought together in quantity in the shipping towns, and for this purpose a great number of small sailing vessels was called into existence, which navigated every bay and river. The New Englanders were especially active in boat-building and their first vessel, the *Blessing of the Bay*, was launched at Mystic in 1631.

Not infrequently New England fishing vessels would load up in the winter, when the fishing season was over, with house-

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hold manufactures, hardware, fish, liquor, and other products and peddle these along the southern coast and at the plantation wharves for tobacco, rice, naval stores, and other southern staples. The intercolonial trade was chiefly in the hands of men from New England, to which were added later those of New York and Pennsylvania. British vessels took very small part in this trade, so that it remained almost a colonial monopoly with little outside competition. This explains in part the vigorous growth of the seaport towns like Boston, Newport, New York, Philadelphia, Baltimore, Charleston, and Savannah. To these centers the products of the smaller towns and of the other colonies were conveyed and from them foreign merchandise and local products were obtained. Colonies like Maine, New Hampshire, Connecticut, New Jersey, and Delaware had little direct overseas trade, but took part in the intercolonial coastwise trade.

The extent and character of the intercolonial trade may be indicated by the following scattered examples: New York sent bread and flour to New England, the Carolinas, and Georgia; beer to Boston; refined sugar to the southern colonies; iron to Massachusetts; brick to the neighboring colonies; woolen goods and hats to the South. Pennsylvania also supplied the other colonies with a variety of goods, exporting flour, bread, and starch north and south; beer to Canada and the southern colonies; ships and pleasure carriages to neighboring colonies; iron and ironware to Massachusetts, to the West Indies, and other colonies; stoves to Boston; stoneware, leather, paper, cordage, and other articles to various colonies.

Transatlantic commerce.—Although the transatlantic trade probably did not exceed the coastwise trade in volume, it unquestionably surpassed it in importance, for upon this depended the supplying of the colonies with capital goods and with the more developed manufactures of the Old World. The Atlantic Ocean was the great thoroughfare of commerce and served as a connecting link between Europe and America rather than as a barrier to intercourse. From the standpoint of trade the colonies were the frontier of Europe, and there developed consequently a colonial

trading class with interests very different from those of the self-sufficing farmers. The surplus products of the colonists, such as furs or fish, lumber or tobacco, were of value primarily as articles of exchange for other commodities not produced locally. Colonial products were at the same time in great demand in Europe. There was thus laid the basis for a profitable trade between the two continents.

During the seventeenth century the transatlantic trade was comparatively small. The colonists necessarily devoted their main energies to making a living, establishing homes for themselves, and supplying their own most urgent wants. There was, moreover, a considerable suspension in the intercourse between the colonies and England during the period from 1640 to 1660, owing to the Civil Wars in England.

New England exported furs and lumber and ships to the mother country, but her fish and grain had to seek other outlets which were found in the West Indies, Holland, and southern Europe. In exchange there were brought back manufactured commodities, wool, and iron from England and Holland, molasses, sugar, and silver from the West Indies, and wine from the Canaries. The middle colonies exported furs, grain, meat, and lumber to practically the same markets, and received about the same imports. The foreign commerce of the southern colonies far exceeded that of either of the other two sections. From Virginia and Maryland was shipped chiefly tobacco, although peltries and grain were also exported from this section. The main markets for these were England and Holland, from which were received in exchange clothing and manufactured commodities of every description, wines, iron, seed, and other necessities. The Carolinas sent skins and furs to England, and corn, cattle, meat, and lumber to the West Indies. Georgia was not yet founded. By the end of the century, in 1700, the exports from all the colonies to England amounted to £395,000, and the imports from England to £344,000; each of these figures out at about \$7.00 per capita. Statistics for the total foreign trade are not available.

During the eighteenth century colonial commerce grew in amount and changed somewhat in character. From New

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England the exports of furs declined, but the whaling industry provided new products in their place, while the manufacture of rum formed the basis for a still more lucrative trade. The middle colonies increased greatly their exports of grains, meat, and other provisions, most of the grain now going to Spain and Portugal, and the other foodstuffs to the West Indies. The southern colonies added new staples, rice, indigo, and naval stores, to the ever-popular tobacco. By 1763 over half of the exports from New England were products of the fisheries; about three-fourths of those from the middle colonies were wheat, flour, and biscuit; and over three-fourths of those from Virginia and Maryland consisted of tobacco. In exchange the American colonists received English manufactures and European goods from England, salt from Spain, wine from the Azores and the Madeiras, and sugar, molasses, rum, and cotton from the West Indies.

The balance of trade.—On the basis of the trade carried on with the rest of the world the English colonies fell into three sharply distinguished groups: (1) the continental colonies north of and including Pennsylvania; (2) those south of Pennsylvania, and (3) the West Indies. The trade of those three regions with England was given as follows for 1770:

TRADE OF COLONIES WITH ENGLAND, 1770		
<i>Colonies</i>	<i>Exports to England</i>	<i>Imports from Engl.*</i>
Northern group.....	£178,000	£1,410,000
Southern group.....	932,000	839,000
West Indies.....	2,350,000	897,000
Total.....	£3,460,000	£3,146,000

* If to these imports there be added £200,000 as the value of slaves imported (according to Lord Sheffield's calculations in his *Observations*, 2d ed., p. 246), and the difference of £114,000 for invisible items such as ocean freights, middlemen's commissions, and other services, an exact balance will be obtained. Since the invisible items must have been considerably larger than the sum named, it may be concluded that a steady investment of English capital was being made in the colonies.

(1) It will at once be noted that the northern group of colonies bought from England about eight times as much as they sold to the mother country. How was this possible? Benjamin Franklin explained it by the indirect trade which this section carried on with the Mediterranean countries of

Europe, South America, the West Indies, and Africa. To the West Indies they sent about one-half of their total exports,⁹ consisting of fish, lumber, meat, and other products; about one-quarter went to Spain, Portugal, and Italy; and part of the balance to the other countries. England received directly but a small fraction of the total exports. But most of the products received in exchange by northern traders found their way to England to pay for the manufactured goods which the colonists wished to possess. Thus from the West Indies and from Southern Europe were obtained currency and bills of exchange which were remitted to English merchants, as well as tropical fruits and other local products. By this "foreign and circuitous commerce" Lord Sheffield estimated that the northern colonies must have obtained between 1700 and 1776 upwards of £30,000,000, which they remitted to England in addition to their direct exports in payment of the goods received from the mother country.

There was one phase of this indirect trade which was so important and so lucrative that it deserves especial mention. This was the slave trade, and this in turn was based upon the manufacture of rum. The rum was carried to the coast of Africa where it was exchanged for slaves; these were sold in the West Indies where the demand for labor on the sugar plantations seemed insatiable. The profits from this triangular trade were received largely in the form of molasses—which again became the basis of another similar series of transactions—and of rum and sugar, currency and bills of exchange. These latter were quickly remitted to England. From the profits of this trade were built up the fortunes of smug merchants in Boston, Newport, Salem, and other New England towns.

(2) The southern colonies traded directly with England, sending their staples—tobacco, rice, indigo, naval stores—there and buying supplies directly from English merchants. Since they had but little indirect trade, their exports served to pay for their imports, and the two remained in fairly steady equilibrium. The excess of exports over imports was absorbed, in part at least, in payment for ocean freights to British shipowners, for most of the carrying trade was done

⁹ This proportion was given for 1769 by T. Pitkin, *Statistical View*, p. 20.

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in British vessels; comparatively few of the ships in the great tobacco fleets were owned by southern planters. Another part of the surplus trade balance was absorbed in payments for services of English "factors" or agents of the planters, who bought the tobacco or received the other staples on commission and frequently acted as purchasing agents for English goods ordered by the American resident planters. The relations between the American planters and the English merchants were much closer than similar relations were in other sections.

(3) The trade balance of the West Indies showed a striking disparity, but in exactly the opposite direction from that of the northern group of colonies. The explanation of the large excess of exports—almost three times the imports—is to be found in a number of circumstances. In the first place, many Englishmen owned estates in the West Indies and drew their profits from these investments. Or it might be that West India planters lived in London with their families and spent their income there; or they sent their sons to the English universities. In any case the products of the West India plantations were shipped to England and showed among the merchandise exports; the goods purchased with them, however, did not appear among the imports into the West Indies, for they were consumed in England instead of on the plantations, but the real effect was the same as though English manufactures had been shipped to the West Indies. In the second place, a great deal of the trade with the West Indies was not carried on with England and consequently does not appear on the merchandise balance sheet with the mother country. Many of the exports were shipped in payment of supplies from the continental American colonies. In 1769 Pitkin¹⁰ estimated that the value of these amounted to about £750,000, of which over £550,000 were from New England. These sums were paid partly in plantation products, and partly in currency or bills of exchange on London merchants. The currency and bills of exchange would then be used by Yankee traders to settle their indebtedness with the London merchants. Large sums were also paid New England and New York shipowners each

¹⁰ *Statistical View*, p. 20.

year for freight charges, as a great part of the carrying trade was in the hands of northern traders. And finally, some £200,000 was paid out annually for slaves, an item which was not included in the statistics of merchandise imports.

There were thus plenty of offsetting invisible items to absorb the excess of merchandise exports and to effect an equilibrium between the two sides of the international balance sheet. It appears, however, that in the twenty years ending in 1775 the balance of trade ran against the continental colonies. This may be interpreted as meaning that the colonists were going into debt, or, what is more probable, that there was during these years a considerable investment of British capital in America.

From the standpoint of the English government and merchants the continental American colonies were originally not so highly regarded as were the West India colonies, nor was New England so important to the mother country as the southern group. The northern colonists produced little that England did not possess, and along most lines competed with her fishermen or farmers or shipbuilders. But the South with its staples of tobacco, rice, indigo, and naval stores, and especially the West Indies with their sugar, molasses, and rum, furnished articles in great demand and which could not be produced in the home country. The mercantilist attitude toward the colonies was forcibly expressed by Sir Josiah Child in his *Discourse on Trade*, written about 1680, who held that "New England is the most prejudicial Plantation to this Kingdom."

Since colonies were valued mainly for commercial purposes, the ideal colony was one which provided commodities that England did not produce and which she otherwise would have to buy from foreign countries; such a colony moreover would not compete with the industries of the mother country. Down to about the middle of the eighteenth century colonies were valued by England primarily as sources of raw materials and tropical foodstuffs, the sugar trade being held in especial regard. Judged by this standard, the South was more highly esteemed than were the northern colonies.

After about 1745 England came to be less of an agricultural country and more industrial. With this shift in eco-

nomie interests she changed her attitude toward the colonies and began to value them as markets for her manufactures. From this standpoint the West Indies, whose population was increasing slowly and was moreover composed largely of slaves, were obviously less valuable than the continental colonies, with their growing wealth and numbers. By reason of their climate, too, the North constituted a better market for the products of England's leading industry, woollens. This altered attitude found expression in the legislation which sought to secure the colonial market exclusively to the mother country and to effect an equilibrium between the two sides of the international balance sheet.

Chief ports and commodities.—The varied and extensive character of colonial commerce will perhaps best be described by naming some of the chief ports and the nature of the cargoes which were carried. In New England Boston was of course the leading port, and its "long wharf" was the scene of a bustling activity which sent its shipping to all parts of America and Europe until it was closed by royal edict in 1774. Newport was next in importance, followed by such lesser towns as Salem, Providence, and New Haven. A fairly adequate picture of the trade from New England is furnished by the list of exports given by the author of *American Husbandry*¹¹ at the end of this period. It will

AVERAGE ANNUAL EXPORTS FROM NEW ENGLAND, 1763-1766	
Codfish, dried, 10,000 tons, at £10.....	£100,000
Whale and cod oil, 8,500 tons, at £15.....	127,500
Whalebone, 28 tons, at £300.....	8,400
Pickled mackerel and shads, 15,000 barrels, at 20s.....	15,000
Products of the fisheries.....	£250,900
Pickled beef and pork, 19,000 barrels, at 30s.....	28,500
Horses and livestock.....	37,000
Beeswax and sundries.....	9,000
Masts, staves, boards, shingles, etc.....	75,000
Turpentine, tar, and pitch, 1,500 barrels, at 8s.....	600
Potash, 14,000 barrels, at 15s.....	35,000
Ships, about 70 sail, at £700.....	49,000
Total.....	£485,000

¹¹ Vol. I, p. 59. Rearranged and classified.

be seen that over half of the total consists of products of the fisheries, and that after these ranked forest products, such as masts, staves, boards, and ships, with potash, and a smaller amount of livestock and meat.

The exports of the middle colonies were largely agricultural, none of the products of the fisheries being found there. Since most of them were shipped from New York City or

AVERAGE ANNUAL EXPORTS FROM NEW YORK, 1763-1766

Flour and biscuit, 250,000 barrels, at 20s.....	£250,000
Wheat, 70,000 qtrs., at 20s.....	70,000
Beans, peas, oats, Indian corn, and other grains.....	40,000
Salt beef, pork, hams, bacon, and venison.....	18,000
Beeswax, 30,000 lbs., at 1s.....	1,500
Tongues, butter, and cheese.....	8,000
Flax seed, 7,000 hhds., at 40s.....	14,000
Horses and livestock.....	17,000
Products of cultivated lands.....	£418,500
Timber planks, masts, boards, staves, and shingles.....	25,000
Potash, 7,000 hhds.....	14,000
Ships built for sale, 20, at £700.....	14,000
Copper ore, and iron in bars and pigs.....	20,000
Total.....	£491,500

AVERAGE ANNUAL EXPORTS FROM PENNSYLVANIA, 1763-1766

Biscuit flour, 350,000 barrels, at 20s.....	£350,000
Wheat, 100,000 qtrs., at 20s.....	100,000
Beans, peas, oats, Indian corn, and other grains.....	12,000
Salt beef, pork, hams, bacon, and venison.....	45,000
Beeswax, 20,000 lbs., at 1s.....	1,000
Tongues, butter and cheese.....	10,000
Flax seed, 15,000 hhds., at 40s.....	30,000
Livestock and horses.....	20,000
Products of cultivated lands.....	£568,000
Deer and sundry other sorts of skins.....	50,000
Timber planks, masts, boards, staves, and shingles.....	35,000
Ships built for sale, 25, at £700.....	17,500
Copper ore, and iron in bars and pigs.....	35,000
Total.....	£705,500

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Philadelphia, the two leading ports of the latter half of the eighteenth century, it will be sufficient to list the exports from New York and Pennsylvania.¹² About two-thirds of the exports of these two provinces consisted of flour and biscuit, wheat and other grains, the other third being distributed among such varied items as meat, livestock, lumber, skins, pig iron, and other products.

The overwhelming importance of tobacco in the export trade of Virginia and Maryland is shown in the following table. This was called a "true staple" by the author of *American Husbandry*, because it did not compete with the products of the mother country, and was accordingly highly approved. The methods of marketing tobacco were, however, cumbrous and expensive. Most of it was shipped in English vessels, which appeared in southern ports early each winter with cargoes of British goods ordered by the planters the previous spring, or sent by merchants to be traded for tobacco and other products, or to be sold on credit. These the captain delivered from wharf to wharf, at the same time making engagements for tobacco to be delivered as he returned down the river. Such a system of casual trading

AVERAGE ANNUAL EXPORTS FROM VIRGINIA AND MARYLAND, 1763-1766*	
Tobacco, 96,000 hogsheads, at £8.....	£768,000
Wheat, 20,000 quarters, at 20s.....	20,000
Indian corn, beans, peas, etc.....	30,000
Hemp, 1,000 tons, at £21.....	21,000
Flax seed, 7,000 hogsheads, at 40s.....	14,000
Sassafras, snake-root, ginseng, etc.....	7,000
Pickled pork, beef, hams, and bacon.....	15,000
Products of cultivated lands.....	£875,000
Deer and other skins.....	25,000
Masts, planks, staves, turpentine, and tar.....	55,000
Ships built for sale, 30 at £1,000.....	30,000
Iron in bars and pigs.....	35,000
Total.....	£1,020,000

¹² *Ibid.*, I, 124, 181. In the original the total of the first table is incorrectly given as £526,000.

* *Ibid.*, I, 256.

was bad for both the colonial planter, who was not sure of disposing of his crop, and for the English merchant who ran the risk of not selling his goods or of obtaining an insufficient return cargo. The remedy for these disadvantages was greater specialization at each end of the line.

In London certain merchants began to specialize in American colonial trade, buying products in the colonies, shipping thither cargoes of English merchandise, and acting as banker for their colonial clients. In the colonies resident factors, acting as representatives of the British merchants, began to appear. It was their business to purchase tobacco and other products or take them on consignment for shipment to England, to collect debts, and to dispose of the cargoes sent to the colonies. These factors never became great merchants, such as developed in New England, for the profits of tobacco growing always tempted them to become planters, while the trade from wharf to wharf instead of in towns was not conducive to the growth of a mercantile class. The real reason seems to have been the greater profitableness of tobacco growing; men, therefore, preferred to be planters rather than merchants. The chief southern ports were Baltimore, Charleston, and Savannah.

Smuggling, piracy, and privateering.—In an age of much legislation but of rather lax enforcement of commercial regulations it was inevitable that these should be frequently disregarded, especially when they ran counter to the self-interest of the traders. On the easily accessible coast of England smuggling was a recognized and lucrative industry, and much French wine and brandy was drunk, silk worn, and tobacco smoked which had not contributed to the king's customs. Colonial traders thought it no crime to evade laws which they considered an infringement on their rights, and carried on illicit but profitable trade with the Spanish, French, and Dutch West Indies; they trafficked in tobacco and other enumerated commodities directly with France and Holland, or landed their cargoes in England at places other than ports of entry.

The eighteenth century was a period of "salutary neglect" of the colonies, and it was not difficult to evade the Navigation Acts in collusion with complacent British customs officials.

It was estimated that in 1700 one-third of the trade of Boston was in violation of the law. Even if this estimate is correct for Boston, it cannot be accepted as a true picture of colonial commerce as a whole, for south of New England the bulk of the trade was probably carried on in the regular way.

Piracy flourished along the southern coast, especially among the numerous islands of the Caribbean Sea. Here the prizes were greater, the possibility of escape and hiding better, and the policing of the waters less effective than elsewhere. From the days when Drake and Hawkins had seized the silver cargoes of peaceful Spanish galleons to the days when "Blackbeard" made his victims walk the plank, piracy had existed, and not altogether without encouragement from constituted authority. More than one governor closed his eyes to the visits of recognized pirate ships to colonial ports, for they sold their ill-gotten cargoes cheaply and paid good prices for provisions and ships' stores. It has even been suggested that the lack of other economic opportunities in the Carolinas drove the settlers in those colonies into piracy until the introduction of rice and indigo and naval stores gave them a profitable industrial basis. In 1699 Parliament passed a stringent law against piracy, but it continued until legitimate trade became so important that it could no longer be tolerated.

Scarcely distinguishable from piracy at times was privateering. Today this is no longer permitted by international law, but in the seventeenth and eighteenth centuries it was the practice in times of war for governments to grant to private vessels "letters of marque and reprisal," which entitled them to prey upon the merchantmen of the enemy country. Since the prize money was shared in part among the officers and crew of the privateer the gain was great and the risk comparatively small. During the frequent wars between England and her European rivals the colonists had abundant opportunity to engage in privateering.

All of these irregular commercial practices disturbed normal trade. Their magnitude is unknown, but it must have been considerable, and this fact reduces the validity of all colonial commercial statistics.

How commodities were exchanged.—Owing to the scarcity of money and the difficulties of credit, most of the colonial trade was really barter. A Yankee skipper would sail with a cargo of dried and salt fish and home manufactures to a southern port where he would exchange his products for, say, lumber,¹³ rice, and meat. These he would carry to the West Indies, and in exchange would receive rum, molasses, and sugar, and perhaps ginger, logwood, indigo, and other tropical products. The larger vessels would proceed to London with their cargoes which they would trade for such merchandise as woodenware, pewter, iron pots, frying pans, and other manufactures, all articles in great demand in the colonies. Smaller vessels, such as New England fishing smacks in the winter, did not undertake such long voyages, but would return north, stopping in at various ports to exchange their rum and sugar for rice, flour or bread, and iron.

Such trade was typical of the roundabout voyages which sometimes lasted two or three years, while the captain, holding a sort of roving commission, wandered from port to port, buying, selling, bartering, or carrying freight, but always seeking for his cargo the market where he thought he could dispose of it to the best advantage. The cargo of such a vessel was usually the property of a number of persons, the principal share belonging to a merchant, but various small lots representing "ventures" of the captain and crew or other persons. This West Indian trade must not be regarded as a mere exchange of commodities between two groups of colonies, but as part of a greater system which bound together America, Europe and Africa.

Domestic trade.—Domestic trade was also carried on in part by direct barter. An important institution of trade was the general country store, which collected the surplus products of the colonists, such as grain, provisions, cheese, butter, potash, feathers, tow cloth, and similar goods, and gave them in exchange European goods—imported dress-goods, crockery, glassware, powder and shot, and bar iron—or West

¹³ It should be noted that southern staves of red oak were preferred for sugar hogsheads and white oak for rum casks; New England supplied principally boards and scantlings to the West Indies.

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India wares such as molasses, rum, sugar, salt, and indigo. Practically all transactions at the country stores were by barter, thus dispensing with the use of metallic money, which was always scarce, and avoiding the use of the fluctuating paper or bank money. The storekeeper usually resold the produce he received to a merchant in the nearest town, from whom he received his foreign wares. With the growth of population in the eighteenth century somewhat more specialized stores began to develop in the towns, but the general store was found in country districts throughout this period.

In accordance with usages to which the colonists had been accustomed in their European homes, legislation was early passed establishing markets and fairs and regulating the conditions of exchange and even authorizing the fixation of prices. Markets were generally to be found in the cities and towns, to which the farmers brought their country produce twice a week. A good description of trade in Philadelphia in 1748 has been left us by Peter Kalm, a Swedish botanist, who was sent to this country by his government to report on conditions. According to him fairs were held twice a year, on May 16 and November 16, while every Wednesday and Saturday were market days. The markets were held in two places, but the principal one was near the courthouse. Here the people of Pennsylvania and New Jersey brought their country produce and obtained the manufactures of the town. The markets began at four or five o'clock in the morning and were usually over by noon.

Fairs were usually held twice a year and were to be found in practically all of the colonies; at these fairs foreign merchandise was sold as well as the wares of the different colonies. They met the business needs of an age which could not support permanent organizations for the exchange of goods. Such gatherings fell somewhat into disrepute in the eighteenth century on account of the drinking and disorder that attended them, but they were revived before the Revolution. A final agency of commercial intercourse was the peddler, who was to be found principally in the country districts of the North. In a period of poor transportation he performed an indispensable service as distributor of small notions, drugs, and other easily carried wares. Sharp business

practices—such as the proverbial wooden nutmegs of the Connecticut peddler—diminished his usefulness and, reinforced by the opposition of a growing class of storekeepers, led to restrictive legislation.

Means of communication were slow and cumbrous, and news traveled slowly. The first regular colonial newspaper was published in Boston in 1704, and others later in Philadelphia, Williamsburg, and Charleston, but their circulation was limited and in their place news-letters containing the most important items were circulated from hand to hand. Postal facilities were of the most primitive character; letters and valuable packages were usually carried by private messengers at high rates. Postage rates for a single letter ranged from eight to twenty-five cents, according to the distance, and the charges were paid by the recipient. Mails were both irregular and infrequent. An important advance was made when a general postal system was inaugurated by the second Continental Congress on July 27, 1775. Benjamin Franklin was placed at the head, and a line of posts established from Falmouth (the present Portland), Maine, to Savannah, Georgia. This was gradually extended during the next few years and in 1789 was placed under the control of a post-master general.

Conclusion.—Colonial trade was of first importance to the colonists, for it was the method by which they exchanged the surplus products of their particular localities for those of other climes or for the manufactured commodities of England and other industrially more advanced countries. For England also it was highly advantageous, for it provided the mother country with raw materials or articles of consumption for whose production she was not suited. The colonial trade constituted nearly a third of England's total commerce, which in 1700 amounted to about £12,000,000 and in 1770 to about £23,000,000. Much of this trade was carried on in colonial ships, which practically monopolized the intercolonial and coastwise traffic, and shared largely in that with Europe and Africa. Its development was interfered with but little by artificial restrictions imposed by England or by natural hindrances like piracy. Along no line did the independence, the energy, or the ingenuity of the colonists produce

more striking results than in the field of commerce. That they should have resisted the efforts of the British government to alter the system built up by the labors of a century and a half of adventurous traders cannot be a matter of wonder.

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CHAPTER VI

COLONIAL FINANCE

To carry on the commerce just described it was necessary to have ships and other means of transportation for moving the goods from the points of origin to the markets. But it was almost equally essential to possess a medium of exchange in the form of money and credit instruments to facilitate the transfer of ownership and the processes of purchase and sale. The lack of these bothered the colonial producer and merchant, and introduced many difficulties and disorders into colonial finance and business, although it is difficult to show that this lack distinctly retarded the economic progress of this period. The keynote of colonial monetary history is to be found in the scarcity of adequate supplies of money and the repeated efforts of the colonists to make up this scarcity by various expedients.

Metallic money.—There were no gold or silver mines in the English colonies and consequently it was necessary to import all the specie for use there. But the colonists were for the most part people of small means and brought very little money along with them; and if they did so they soon discovered in their new settlements need for many other forms of capital more urgent than money, and speedily sent this back to England to lay out in such useful commodities as agricultural implements, plows, tools, household utensils, and manufactured goods. This was recognized by Governor Ward of Rhode Island, who wrote:¹ "And as the first settlers were not of the wealthiest sort, nor overstocked with servants, the greatest part of their money was unavoidably swallowed up in procuring provisions, clothing, and utensils for husbandry and labor, to subdue and cultivate the soil." Another contemporary writer stated that money from the

¹ *Records of Rhode Island*, V, 8, quoted by Bullock, *Monetary History of the U. S.*, 3, n.

West Indies "seldom continues six months in the province before it is remitted to Europe." In other words, specie was exchanged, like any other commodity, for other goods which were deemed of greater utility. This was not understood by most of the colonists and they attributed the constant draining off of the metallic money from the colonies to the operation of the Navigation Acts, the machinations of the merchants, unfair treatment by the English, and any cause except the correct one.

Monetary legislation.—The obvious method of meeting this difficulty, and one which has always been tried in similar circumstances in almost every country, was the prohibition of the export of money. This was done by a Massachusetts law of 1654, which forbade the exportation of coin, except a sum of not over 20 shillings for traveling expenses, upon pain of forfeiture of the offender's whole estate. It was further required that a searcher for money be appointed in every port of entry to examine outgoing vessels. Such legislation was however futile.

Since the colonists brought little metallic money with them and had no mines from which to replenish their stock, the only way by which they could obtain it was by trade with other countries. As their commerce developed they came to be well circumstanced for this, since they traded largely with Portugal and Spain, which controlled the silver mines of Mexico and Peru, then the most important existing sources of supply. They also developed during the eighteenth century a still more extensive trade with the West Indies which were well supplied with Spanish coins. As a result, most of the coins which circulated in the colonies were Spanish and Portuguese rather than English, though the money of account was pounds, shillings, and pence. These coins differed considerably in weight and fineness, and the original mint errors were magnified by the universal practice of clipping and sweating, which was not difficult with the rude coins of that period. By the middle of the seventeenth century it was estimated that the coins in the colonies had lost one-fourth of their weight. Since English merchants received foreign coins only according to weight, the heavy ones were exported to England, and the light ones circulated at home,

quite in accordance with Gresham's law that bad money drives out good. The principal coin in use was the Spanish silver dollar or piece of eight reals ; the mint value of a full-bodied "piece of eight" was 4s 6d.

Partly as a result of the low metallic content of the coins circulating in the colonies, and partly, apparently, in order to attract more coin by a favorable estimation, the different colonies vied with each other in raising the valuation of the Spanish dollar : the rate was generally made 5s for convenience, but in 1652 Massachusetts raised her valuation to slightly under 6s, and shortly after Virginia increased hers to over 6s ; New York went up to 6s 9d in 1676, and in 1707 Pennsylvania followed with a valuation of 7s 6d. The English government tried to introduce order into this chaos and in 1704 declared that the maximum rating of a Spanish piece of eight should be 6s ; this was known as "proclamation money," but the price of silver continued to be fixed without much reference to this legislation.

The objects sought by the colonists in fixing the legal rates of coins above their sterling value seem to have been twofold : one was to attract coin from other regions where lower rates prevailed, and perhaps to induce the pirates to bring their money in ; the other was a belief of the debtor class that this form of inflation would provide them with cheap money. Here was an early American precedent for "devaluation" of the dollar, in this case the shilling. That it was effective in enabling American debtors to pay English creditors at a considerable reduction is evidenced by the constant complaints that emanated from England.

Colonial mints.—Because of the scarcity and the disordered state of the scanty supply of money in circulation, which was made up of a heterogeneous collection of foreign coins without uniformity in denomination or weight-or fineness, attempts were made three times to establish colonial mints. Those projected by Virginia (1645) and Maryland (1662) seem never to have got actually into operation, but in 1652 Massachusetts established a mint for the coinage of shillings, sixpenny, and three-penny pieces. In order to keep them in circulation they were made lighter than the equivalent English coins, containing only about three quarters

as much silver, but in spite of that they were exported. The "pine-tree" shillings issued by this mint, so-called because of the design stamped upon the face of the coins, were in general use throughout New England, but about 1688 the mint was closed by the English government as it was thought to run counter to the royal prerogative of coinage.

The scarcity of coin was accentuated by the sparseness of population and the isolation of households and communities; this made exchange difficult and circulation of money slow, so that a given amount of specie was much less effective than the same sum would be today.

For one reason or another it is clear that the colonists were inadequately supplied with metallic money as a medium of exchange. The main causes for this were that the colonists were poor and had little money at best. Since they were situated in a new and undeveloped country they needed other forms of capital more, and consequently soon exchanged their specie, which is only one form of capital or a tool of exchange, for other forms. The adverse balance of trade with England, especially on the part of New England, drained the colonies of such coins as came into their hands and prevented the retention of a stock of gold and silver for use there as money; it was more needed to settle international accounts than it was wanted at home.

And finally the prevailing mercantilist notions on the balance of trade made other nations disinclined to give up their specie for colonial products. England found it impossible, even had she been so inclined, to provide the colonies with an adequate currency because of the disordered state of her own coinage, at least prior to the recoinage of 1696. Under these circumstances the colonists proceeded to use substitutes and various expedients to supplement specie; in this endeavor to find a cheap and satisfactory substitute for the expensive precious metals is to be found the keynote of colonial currency experiments.

Commodity money.—In order to carry on exchange without money the colonists first reverted to direct barter, although the value of the articles exchanged was usually stated in terms of money. Taxes were made payable in produce. Dewey states that the term bills of students at Harvard Col-

lege were for many years met by the payment of produce, livestock and meat.² "One student, later president of the college, settled his bill with 'an old cow,' and the accounts of the construction of the first college building include the entry, 'Received a goat 30s. plantation of Watertown rate, which died.'" The country store was the point at which most barter was effected. Here country products, like butter, cheese, eggs, and flax or household manufactures like yarn, nails, etc., were received, set off against one another, and paid out.

Such barter was inconvenient and cumbersome and money substitutes were soon used. One of the first commodity moneys resorted to by the early colonists was a commodity which they found in use among the natives and which they quickly adopted in trade with the Indians and also among themselves. This was *wampum*, a name given to black and white beads made from the whorls of periwinkle shells in which holes were bored with stone drills, the beads being then worn as strings or embroidered on pieces of deerskin and worn in the form of girdles or belts as charms or ornaments. Wampum seems to have been first used in New England in 1627, where it was found very advantageous in trade with the Indians, for their labor was thereby made available as they would not have worked nor sold their furs for specie. It was usually used in the beaver trade, and as long as beaver had a market wampum maintained a certain value; but it was always fluctuating and varied with the price of beaver.

These fluctuations are clearly evidenced by contemporary legislation; about 1630 Roger Williams wrote that wampum was quoted at about 3 beads for a penny; in 1637 Connecticut received it for taxes at the rate of 4 beads for a penny, and in 1641 Massachusetts made it legal tender at 6 beads for a penny. Wampum was at its height about 1646, but after that from a number of causes it began to decline in value. The price of beaver, with which it was closely connected, fell in England and as a result the price of wampum fell in the colonies. The white man, with steel drills, was able to manufacture the beads more rapidly than the Indians

² D. R. Dewey, *Financial History of the United States*, p. 19.

had done, and there was soon what one may call an over-issue of this money. And finally, counterfeiting began: the natural black beads were worth double the white ones, so the colonists began to dye the white beads.

By 1662 all the New England colonies had withdrawn the legal tender quality from wampum, and ceased to receive it as lawful money, but this did not drive it out of circulation and it remained current in smaller transactions and in the interior for some time afterwards. It continued to circulate in remote districts of New England and as far south as the Potomac until the beginning of the eighteenth century. In spite of its disadvantages wampum served as a universal currency in the colonies for practically three-quarters of a century, and during most of that time was readily exchangeable for merchandise, labor, or taxes. Frequently there was no other currency available, and judgments of courts as well as taxes were made payable in this shell money. It circulated not only in New England, but the Dutch in New York had scarcely any other effective currency in smaller sums, and it was common in Pennsylvania and New Jersey.

Agricultural products as money.—Agricultural products of almost every sort were used as media of exchange by the colonists at one time or another, differing of course in the different sections, but in each case being the most universally used article in the community. Thus, in 1631, Massachusetts ordered that "corne shall pass for payment of all debts at the usual rate it is sold for, except money or beaver be expresly named." In 1640 wheat was made current at 6s a bushel, rye and barley at 5s, and peas at 6s; dried fish was also made a legal tender. Taxes might be paid in any of these articles, or in cattle.

It was soon discovered that when commodities which were not uniform in quality were used indiscriminately as money, taxes and other debts were often settled by the payment of the worst specimens. Hence in 1658 an order was issued that no man should attempt to discharge his taxes with "lank" cattle. This was simply an illustration of Gresham's so-called law or principle that "bad money drives out good," for debtors saved those specimens which were of

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most value to themselves and passed on to their creditors the poorest. Other disadvantages soon showed themselves. The cost of transporting produce paid in for taxes from different parts of the colony to Boston was about ten per cent of the whole amount, and a further loss of five per cent was incurred through shrinkage and deterioration.

In the southern colonies resort was had to the use of the staple agricultural products of that region as substitutes for the scarce metallic money. Tobacco was used as currency in Virginia for almost two centuries and in Maryland for a century and a half. It seems to have been used as a medium of exchange from about 1619, and in 1642 was virtually made legal tender by a law prohibiting the enforcement of contracts calling for metallic money, though this was repealed fourteen years later. Like wampum in New England, tobacco fluctuated greatly in value; as the production of tobacco increased, its value depreciated, and persons who had debts or wages payable to them in so many pounds of tobacco found themselves with a much smaller purchasing power.³ Tobacco is, moreover, not a uniform product, and the poorer qualities were passed on to the creditors.

Constant attempts were made to limit the amount of tobacco (so as to prevent its depreciation), to keep it up to standard (so as to insure uniformity in quality), and in other ways to remedy the disadvantages to which it was subject. A great improvement was made in 1727 in Virginia, when tobacco notes were legalized; these were in the nature of certificates of deposit issued by official inspectors for tobacco deposited in government warehouses. Since this was graded, the evil of lack of uniformity was partially obviated; in 1734 "crop notes" calling for particular casks of tobacco were introduced. The tobacco notes passed freely from hand to hand and formed a more convenient medium of exchange than the tobacco itself which they represented.

In South Carolina the scarcity of metallic money led to

³ Due to this fact of fluctuating value, the Virginia legislature came into conflict with the British crown. The salaries of the clergy had been fixed in so many pounds of tobacco, which was to be redeemed at a fixed price of 2*d* a pound. When the price of tobacco appreciated, the ministers complained and the King disallowed the law. This was known as the Parson's Cause and furnished Patrick Henry an occasion for denying the right of the King to veto colonial legislation.

the adoption of rice as the chief medium of exchange. In 1719 the Assembly made rice receivable for taxes "to be delivered in good barrels upon the bay at Charleston." Rice went into circulation as money, however, chiefly in the form of rice orders or certificates, like those for tobacco in Virginia, at the rate of 30s for one hundred pounds of rice. The rice orders were made legal tender for all purposes.

Other commodities authorized and used as money in the colonies in the payment of public and private debts were wheat, oats, barley, peas, bacon, pork, beef, tallow, butter, cheese, fish, flax, wool, sugar, brandy, whisky, and even musket balls.⁴

Advantages and disadvantages of commodity money.—

The use of commodity money was attended with many inconveniences, some of which are suggested in a lively description by Mme. Knight of the methods of trade followed in New Haven in 1704.⁵ Prices differed according to the kind of medium of exchange used, which were pay, money, pay as money, and trusting. Pay was grain, pork, beef, etc., at the prices set by the General Court that year; money was pieces of eight or Spanish reals, Boston shillings, silver coins, and wampum; pay as money was provisions at prices one-third cheaper than those set by the General Court; trust was the result of a bargain between merchant and buyer as to the time allowed for payment. "Now when the buyer comes to ask for a commodity, sometimes before the merchant answers that he has it he says, 'Is your pay ready?' Perhaps the chap's reply is 'yes.' 'What do you pay in?' says the merchant. The buyer having answered, then the price is set; as suppose he wants a sixpenny knife, in pay it is 12*d*, in pay as money 8*d*, and hard money its own price, viz., 6*d*." "It seems a very intricate way of trade and what *Lex Mercatoria* had not thought of," added Mme Knight.

The use of these commodity moneys was unquestionably necessary and beneficial in the absence of a sufficient supply of metallic money. Their general adoption as a medium

⁴ See list of articles used in North Carolina in Bogart and Thompson, *Readings*, 97.

⁵ *Journal*, 53; quoted in A. B. Hart, *History told by Contemporaries*, II, 229.

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of exchange during the seventeenth century is an evidence both of the need and of the ingenuity of the colonists in finding substitutes for the expensive precious metals. Just as they used wooden pegs in the absence of iron nails or screws in building their houses and ships, so they used wampum or tobacco in place of gold and silver in exchange. In neither case was the substitute so convenient as the article substituted for, but it served until the economic development of the country permitted something better. All these commodity moneys were subject to serious disadvantages, for they lacked most of the requisites of good money, such as durability, uniformity, portability, divisibility, and stability of value. They fluctuated in value, and the holders suffered loss in storing or hoarding them. Their unsatisfactory character consequently led to a resort to other expedients and substitutes for metallic moneys. These were government bills of credit or paper money, and bank notes.

Paper money.—To meet the need of a larger circulating medium for colonial trade, and also as a source of revenue for the treasury, paper money was early issued by the colonial legislatures. The first issue was made by Massachusetts in 1690, to pay the soldiers who had returned unsuccessful and penniless from a military expedition against the French in Quebec. This was not only the origin of paper money in America, but also in the British Empire, and almost in the Christian world. These notes were limited to £40,000 in amount, but in spite of this they rapidly depreciated to about two-thirds of their face value, and the soldiers who were paid with them lost a third of their wages. To prevent this depreciation the plan was adopted the following year of retiring and destroying a certain number of bills each year, and in 1692 they were given the legal tender quality and made receivable for public dues at five per cent advance, and at the same time secured by the public taxes and other revenues. These measures were successful in keeping the paper on a par with specie for about twenty years, although the redeemed notes were usually promptly reissued. This first emission, thus secured, was really an issue of non-interest-bearing treasury notes or cer-

tificates of indebtedness, much like modern treasury warrants, that are issued in anticipation of taxes. They passed from hand to hand, however, and served as currency.

This method was so successful that when a second expedition against Canada took place in 1709, a new issue of £30,000 was made to meet the expenses, together with £10,000 reissue of the first emission. This was too much, and from now on province bills began to depreciate; not only were they overissued, but the public soon lost confidence in them owing to the manner in which the period of redemption was postponed. This had been extended in 1704 to two years, in 1708 to three, in 1709 to four, and now it was again prolonged to five years in 1710, to six in 1711, and finally to thirteen years. By 1714 it was estimated that a total of £194,950 had been issued in Massachusetts. Province bills were now at a discount of thirty per cent, and as they depreciated they drove out the little metallic money in circulation; at the same time prices rose in terms of the depreciated bills, so that complaint was soon made of a scarcity of money on the higher price level.

The issue of "bills of credit" by a government is a legitimate device for meeting an emergency and anticipating the revenues from taxation, out of which they will later be redeemed. But it is full of danger, for it is always easier to contract a debt than to pay it. The needy colonial governments usually overissued and then deferred payment, so that public confidence was weakened and the specie value of the bills fell. So tempting was this device that eight other colonies followed the example of Massachusetts in issuing bills of credit, and the inflation movement took a new direction.

Inflation.—As a result of inflation prices went up rapidly, and farmers and other producers who were in need of capital, urged additional issues of this inexpensive money. Accordingly the colonial governments began to issue "loan bills" to private individuals, generally on the pledge of real estate. In Massachusetts the issues amounted to £202,088 between 1715 and 1724 inclusive. To prevent depreciation laws were repeatedly enacted, giving the bills the

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legal tender quality, and punishing counterfeiting with death. The legislation was unavailing, however, and the bills sank steadily in value, as is shown by the price of an ounce of silver in terms of this paper money: in 1700 5s would buy an ounce of silver; in 1710 it required 8s; in 1719, 12s; in 1730, 20s; in 1740, 29s; and in 1750, 60s. At this last quotation the bills were worth, in modern parlance, $8\frac{1}{3}$ cents on the dollar.

It is not necessary to follow in detail the further history of issues in Massachusetts, except to say that, as the older issues depreciated, new forms of notes were put out in the hope that they at least might circulate at par. Between 1702 and 1750 there were only three years in which issues were not made; the major series were emitted in 1737, 1741, and 1744, at which time the successive series of bills were known as old tenor, middle tenor, new tenor firsts, and new tenor seconds. As each series had a different rate of depreciation the situation was little less than chaotic.

The history of colonial paper money was much the same in the other colonies as it was in Massachusetts. In all of them there were great over-issues, consequent depreciation in value of the bills and rise in the prices of commodities in terms of these bills, followed by turmoil and disorder. The usual sequence in the history of emissions of paper money was, according to Horace White:⁶ issue, driving of specie out of circulation, counterfeiting, wearing out of bills, replacement of worn-out and counterfeited issues with new bills, postponement of time of redemption, depreciation, and finally in some cases repudiation. The royal governors, acting under instructions from the Crown, opposed the colonial issues and as a result were in constant disagreement with the assemblies and the people.

In New Hampshire, for instance, the legislature refused to vote appropriations for five years (1731-36) because the governor vetoed the acts authorizing issues of paper money. Conditions were probably the worst in Rhode Island, since the debtor class was in complete ascendancy and there was no check upon the issues; even the neighboring colonies complained of the depreciated Rhode Island paper money

⁶ *Money and Banking* (Boston, 1914), 85.

and legislated against it. In the middle colonies conditions were never so bad, because of the stubborn resistance of the governors to emissions, and the depreciation of the paper money was only about twenty-five per cent in New York, Pennsylvania, and New Jersey. The same thing was true of Delaware, Maryland, and Virginia, but in South Carolina the monetary situation was worse than in any of the colonies except Rhode Island. In 1719 the people of South Carolina deposed the Proprietor's governor because he refused to assent to the issue of bills of credit. Georgia did not issue any until 1760.

Evils of paper money.—The disadvantages consequent upon the use of paper money in the colonies were very serious and real. Perhaps the most serious was the utter lack of control over the amount of the issues. There was almost complete ignorance of the principles of money, and there was a confusion between money and capital in general. The colonists needed capital goods of every sort and thought to supply their needs by multiplying stamped pieces of paper. They were using capital faster than they could accumulate it, and could not always borrow from abroad all that they needed. The pressure was great to increase the amount of the paper issues and the legislatures yielded readily to the popular demand. It was an easy method also for raising funds needed by the provincial treasuries, and as they became accustomed to the use of paper money, the colonists insisted more and more upon the use of credit rather than taxation.

The debtor class undoubtedly urged further issues as a method of lightening their burdens, especially in the interior where specie was lacking and a defective system of taxation pressed heavily. The result was an enormous over-issue, far beyond the monetary needs of the colonists, with a consequent depreciation in the value of each unit of the money, and a rise in prices calculated in terms of this depreciated unit. The effect of such a change in the value of money was to injure creditors and persons with relatively fixed incomes like ministers, teachers, laborers, etc., and to benefit debtors and producers of goods for sale. There was thus introduced into colonial politics an issue which divided the

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community into two groups⁷ with opposing economic interests and which created bad feeling between debtors and creditors, royal governors and colonial legislatures, the colonists and the Crown.

Defence of paper money.—But in spite of all these disadvantages it must be recognized that the issue of paper money met a very real and acute need in the colonies, namely the lack of a sufficient quantity of metallic money to serve adequately as a medium of exchange. Commodity money was used during the seventeenth century, but it proved unsuited to the requirements of the expanding commerce of the eighteenth. For this the device of paper money was better adapted, and, had it not been abused, would have served the colonists well as an economical and convenient substitute. Even with all its abuses and disadvantages, it may have been better than the system of barter which it replaced, and found defenders among some of the ablest men of the colonial period. Thus Governor W. Burnet of New York, in a report to the Board of Trade, defended the issue of bills of credit as a method of anticipating tax receipts, and another able colonial administrator, Thomas Pownall, once governor of New Jersey, argued in 1764 for the issue of paper money to supply the lack of metallic money:⁸

"In Colonies, the essence of whose nature requires a progressive increase of settlements and trade, and yet who from the balance of trade with the mother country being against them, must suffer a constantly decreasing quantity of silver money ; *a certain quantity of paper money* is necessary. It is necessary, in such circumstances, to the equal distribution and general application of those benefits to the whole Colony ; which benefits would otherwise become a monopoly to the *monied merchant only* : it is prudent, and of good policy in the mother country to permit it, as it is the surest means of drawing the balance to the Colony trade and culture, to its own profit."

⁷ Horace White goes so far as to state that the emission of bills of credit by legislative assemblies which were controlled by the agrarian interests, was the result of "a conspiracy of needy landowners against the rest of the community."—*Money and Banking* (Boston, 1914), 87.

⁸ *Administration of the British Colonies* (London, 1774), I, 194 ; in Bogart and Thompson, *Readings*, 104.

Benjamin Franklin, certainly the most eminent man in all the colonies, threw the weight of his authority in favor of paper money in 1729 by the publication of his pamphlet, "A Modest Inquiry into the Nature and Necessity of Paper Money." Thirty-seven years later, in 1766, he testified before the House of Commons as follows:⁹

"Pennsylvania, before it made any paper money, was totally stript of its gold and silver. . . The difficulties for want of cash were accordingly very great, the chief part of the trade being carried on by the extremely inconvenient method of barter; when, in 1723, paper money was first made there, which gave new life to business, promoted greatly the settlement of new lands (by lending small sums to beginners on easy interest, to be repaid by instalments), whereby the province has so greatly increased in inhabitants, that the exports from hence thither is now more than ten-fold what it then was; and, by their trade with foreign colonies, they have been able to obtain great quantities of gold and silver, to remit hither in return for the manufactures of this country. New York and New Jersey have also increased greatly during the same period, with the use of paper money; so that it does not appear to be of the ruinous nature ascribed to it."

In spite of these and other arguments the weight of authority in England was against colonial paper money; the mercantile interests in London opposed it as interfering with trade and the payment of debts due them in specie. The Crown too always regarded these acts of the colonists with jealousy, since the power of coining money, and hence of issuing paper money, was a royal prerogative. In 1751, consequently, Parliament forbade the issue of bills of credit in the four New England colonies where conditions were the worst, though treasury notes in anticipation of taxes were allowed in case of war and fiscal emergencies. Finally, in 1764, it extended this prohibition to the remaining colonies. As will be seen in a subsequent chapter, this prohibition constituted an important though little emphasized cause of disaffection between the colonies and the mother country.

Colonial banks.—In the latter half of the seventeenth

⁹ *Works* (Boston, 1840), II, 343.

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century one William Potter of England wrote a book¹⁰ in which he outlined a scheme for a bank of land and commodities, which was to issue notes on the mortgage of real estate or on the deposit of personal property—"symbolic wealth was to take the place of real wealth." The book fell into the hands of Governor Winthrop of Massachusetts and was eagerly read in the colonies, where the idea formed the basis of similar proposals for the next century. This was of course not a bank in the modern sense, but it must be remembered that banking was of comparatively recent origin and of all banking functions that of issue was the last to develop. The first bank of issue in Europe—the Bank of Stockholm—was not established until 1616, and the Bank of England dates only from 1694. The colonial banks were therefore pioneer experiments and had little to guide them in the experience of European institutions, though it is probable that their founders were acquainted with John Law's projects in France between 1716 and 1720.

The Land Bank.—Perhaps the best known colonial bank, which was sufficiently typical to serve as an illustration of all, was the "Land Bank Manufactory Scheme" established in Massachusetts in 1739. The prospectus stated that it was a plan for emitting bills secured by real estate, which were to serve as a medium of trade. It may be briefly described as follows: Subscribers to a so-called stock of £150,000 agreed to borrow certain amounts in bills of the company, but the only payment which they were required to make was 40s for each £1000—2/10 of 1 per cent—for organization expenses. Each subscriber was to furnish satisfactory mortgage security for his loan, on which he was to pay interest at three per cent per annum; while the principal was to be repaid in twenty annual instalments of five per cent each. These payments might be made either in the notes of the company, which were described as "manufactory notes," or in produce or articles manufactured.

The form of the note which it was originally proposed to issue contained no pledge of redemption, but was simply a promise on the part of the partners to receive the same in all payments to them. It was afterwards amended by add-

¹⁰ *The Key of Wealth, or A new way for Improving of Trade* (London, 1650).

ing an agreement to pay the possessor thereof in manufactures of the province after the expiration of twenty years. According to this plan the mortgages might have been paid off by commodities, and if these were distributed among the partners, the notes would have been left afloat without any security. Notes to the amount of £49,250 were actually issued. About one thousand persons subscribed to the loans, including members of the legislature where the friends of the land bank were in the majority.

The scheme was vigorously opposed by Governor Belcher and the Council and by the wealthier merchants. About one hundred and fifty of the latter signed an agreement that they would not accept the notes in any transaction; and, in order that the accusation should not be made that they were preventing the issuance of needed money, some of them organized a silver bank and issued their own notes, which they agreed to redeem in silver after fifteen years. These silver notes were hoarded and those of the Land Bank continued in circulation. The colony was divided into two groups upon the matter and the dispute threatened to cause a political and social revolution. The opponents of the land bank realized that the Massachusetts Assembly would not suppress it, so they turned to the English government for assistance.

The Bubble Act.—Parliament was finally called upon to suppress the enterprise, and they extended the provisions of the Bubble Act to the American colonies. This was an act passed in England in 1720, after the failure of the disastrous South Sea bubble and similar speculations, to prevent "business by joint stock companies without special authority of statute." Under this act the Land Bank and similar schemes would have been impossible in Great Britain, but rulings by the Board of Trade and the attorney general had held that such a bank was not illegal in New England. Nevertheless Parliament specifically enacted in 1741 that the Bubble Act did originally apply, had continued to apply, and was then in full force in the colonies.

This was clearly *ex post facto* legislation, and was bitterly resented by most of the colonists. By the terms of this law every contract made by the Land Bank or any similar or-

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ganization, was rendered null and void, and all who had participated in the schemes were made individually liable to holders of the notes. The holders demanded the redemption of the notes and most of them were redeemed, but some of the subscribers either could not or would not pay their loans; some were insolvent and others had left the province. Many of those who had accepted the notes, as well as the subscribers, suffered serious losses, and the cases dragged on in the courts until 1768. Probably no other act of Parliament aroused such resentment against the mother country as did this anti-bank legislation, and it undoubtedly created a state of mind which led ultimately to revolution. John Adams stated in 1774 that it was more important than the Stamp Act in creating opposition to British authority in Massachusetts.

Similar banks were formed in New Hampshire, Connecticut, Rhode Island, Virginia, and South Carolina, but they too were brought to an end by the extension to all the colonies of the Bubble Act.

Pennsylvania bank.—In the annals of colonial banking there was one institution which achieved success and was well managed; this was a public loan bank in Pennsylvania. This colony passed through a severe depression in 1722, the currency was insufficient, prices on all produce were greatly depressed, and a "corner" in breadstuffs and imported goods seems to have been engineered by a group of four or five men who soon got most of the people in their debt. To remedy this situation the colonial assembly in 1723 established a public loan office administered by four commissioners who were empowered to make loans in bills of small denominations of not less than £20 nor more than £200 to any one person. The security was to be a mortgage on land for 50 per cent of its value, together with a bond and judgment on the borrower's whole estate; the loan was to be repaid in eight years, with interest at five per cent. The bank was of undoubted benefit and helped to restore prosperity. In 1739 a similar loan bank was established, which issued £80,000 on a 16-year repayment plan, and was equally well managed and successful.

It is clear that these organizations were not banks in the

modern sense, and did not exercise the functions of a modern bank. They were rather, as one writer has expressed it, "batches of paper money." Their success depended upon the restraint exercised in the amount of the issues, the provisions for redemption and their enforcement, and the character of the security back of the loans or notes. In all these respects the public loan bank of Pennsylvania was better organized than the land bank of Massachusetts. All these institutions must be regarded as pioneer efforts to solve perplexing monetary difficulties. The colonist attacked these as confidently and boldly as he did the other problems of the New World; undeterred by theory he attempted to solve them empirically. Ignorant of the laws of money or the principles of banking, it is scarcely to be wondered at that he made mistakes. But the colonist favored the issue of paper money not merely to provide the necessary media of exchange, he also relied upon it to relieve him of debt by raising the prices of his products and to supply the needed governmental revenues, and thought thereby to escape taxation. The tendency toward inflation was inherent in the currency situation. Money and public finance were inextricably confused, and to this confusion must be attributed much of the bad financiering of the colonies and later of the Revolution.

Foreign Exchange.—The discussion of money and banks thus far has dealt with the efforts of the colonists to provide for themselves a sufficient quantity of money and, when metallic money failed them, to introduce various substitutes. But in foreign trade commodities and paper do not pass current, even if given the legal tender quality. Gold and silver are the only acceptable kinds of money in international trade, and of these the colonists had, as we have seen, an insufficient quantity. Most of the colonial foreign trade was really barter; a ship's captain, holding a sort of roving commission, carried the commodities of each section to the market where he thought he could dispose of them to the best advantage.

Sometimes, as has already been pointed out, he received gold or silver, notably in the West Indies, or bills of exchange drawn on London merchants; with these he could

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readily purchase in the English market the supplies which he needed to take home. A draft or bill of exchange was an order drawn by some exporter in the colonies upon an English merchant to whom he had sold his goods but from whom he had not yet received payment, directing such merchant to pay to a third party a part or all of the amount owed. In this way a transfer of credit was effected without the expense of transmitting money. Bills of exchange were frequently drawn on Europe in all of the colonies, the rate of exchange differing from place to place and time to time, according to the supply of bills or the demand for them;¹¹ they were commonly drawn at thirty days' sight. Interest rates ranged in the different colonies from five to seven per cent. Goods were generally imported from Europe on eighteen months' credit, and sold in the colonies on twelve months' credit. The earlier commerce of the seventeenth century was carried on for the most part by the direct exchange of one commodity against another, but during the eighteenth century there was greater resort to money and to credit devices.

Public finance in the colonies.—There was no great need in the colonies, especially in the seventeenth century, for large public expenditures or for taxes. The mother country asked no assistance from them; the wars, which later called for considerable expenditures, had not yet become a burden, and military campaigns were usually conducted by a system of locally organized militia, the expenses of which were assessed upon the individual members of the town. The public wants of the colonists were few and simple, since the population was sparse and scattered. Voluntary contributions were made to support the churches, schools, and frequently the roads, which, with bridges and a few public buildings, were the chief public works. The salary of the governor was probably the most burdensome regular charge, and over this there were continued contests between the colonial assemblies and the home governments. The Crown wished the support of the governor to be permanent, but the colonists insisted upon annual grants for this purpose, both

¹¹ Testimony of Benjamin Franklin, before the House of Commons, 1776, in *Works* (Boston, 1840), II, 425.

to limit the powers of the Crown and to use as a powerful weapon in controversies with the governors. Other than the governor there were few officials, and they were often forced to serve without compensation, acceptance of office being made compulsory, or they were paid by fees. The town clerk, the sheriff, and other officers, as well as the minister, received most of their income in this way.

The revenues of the colonial governments in the seventeenth century were derived largely from quitrents and fines. Quitrents were annual charges on lands in the colonies under proprietary government, and were to be found to a slight extent in the other colonies. In some cases these were sufficient to cover both dues to the proprietors and all public expenses. As the proprietary colonies were converted into royal colonies in the eighteenth century the quitrents gave place to taxes. Each colony had its own system of taxation, and these differed greatly from one another, corresponding in each case to the economic conditions prevailing there.

In the main three systems may be distinguished, those of New England, the middle colonies, and the South. In New England, where both politically and economically there was great equality, the poll tax and the property tax were the backbone of the revenue system. These corresponded fairly well to the taxable ability of the citizens. Later, as need for larger revenues arose, resort was had to other taxes. In the middle colonies, where trading was more important, and where there was neither the extreme democracy of New England nor the aristocracy of the South, a system of excise taxation and customs duties was developed, though this was supplemented later by the general property tax. The southern colonies were organized on a semi-feudal basis and constituted a landed aristocracy, both politically, socially, and economically. Consequently neither the democratic property tax of New England nor the business taxes of the middle colonies found favor here. The poll tax, together with import duties upon liquors and slaves, and export duty upon tobacco, were the chief features of the southern system.

In addition to these local colonial taxes the English government established a system of import duties, tonnage

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taxes, and port dues, administered by officers appointed by the Crown, for the purpose of enforcing the acts of trade and navigation. The primary purpose of these acts was to protect the trade and manufactures of the mother country, and the imperial revenue collected at the custom houses was insignificant. When, toward the end of this period, the English government attempted to use this system for revenue rather than for protective purposes, and in addition to impose internal taxes, it came into conflict with colonial ideas of self-government. The right of England to enact and administer the acts of trade as "regulations of commerce" was admitted even by James Otis in his great argument of 1761, but he utterly denied this power in the collection of revenue. It is possible that hostilities might have been long deferred or prevented if this distinction had been observed.

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CHAPTER VII
ENGLISH COLONIAL THEORY AND
POLICY TO 1763

The Mercantile System.—Between the sixteenth and the eighteenth centuries there developed in most European states a more or less coherent body of practices and policy which aimed at the development of national power. The set of measures by which this national power was to be developed is called the *mercantile system*, and it was under the influence of this system that not only England, but all European countries, regulated their trade and commerce during this period.

✓ England was slow in applying these principles to her colonies, for she was occupied during the first half of the seventeenth century in acquiring, in more or less haphazard fashion, what was later styled “a grand marine empire.” Laws had been passed to encourage and protect shipbuilding and shipping, to develop fisheries, and to build up agriculture and manufactures, but the legislation had been spasmodic and without consistency or definiteness. By 1650, however, a fairly clear notion had been developed as to the proper economic functions of colonies, as they were then thought of, and as to the methods by which these could be made to contribute to the wealth and power of the mother country. Mercantilism, which embodied those views, emphasized in England especially shipping and the balance of trade.

✓ The doctrines of the mercantile system, applied to the colonies, resulted in a policy by which their resources were used to make England powerful. In this scheme the colonies were assigned a definite if subordinate place in an imperial plan, supplying the raw materials for English manufactures and a market for the finished goods; at the same time a large exchange of commodities between the colonies and the mother country would build up a profitable carrying trade for British ships. In carrying out this policy

the colonies were required to send to England alone especially valuable goods (the "enumerated" articles) but were not allowed to send to England goods which would compete with home industries. ✓ They must buy their imports from the mother country ; consequently, manufactures in the colonies which would provide the colonists with goods which otherwise they would buy from England must be prohibited. On the other hand, industries of value to the mother country must be built up in the colonies. And most important of all, the carrying trade must be confined to British ships. ✓ These regulations, taken together, constituted a definite and comprehensive scheme of economic imperialism, which seemed both logical and just to an Englishman of the seventeenth and eighteenth centuries.¹ The aim was to create a self-sufficient commercial empire composed of mutually complementary economic parts. This point of view is succinctly stated by an English publicist, writing about 1745 :²

Aims of mercantilism.—"Colonies ought never to forget what they owe to their mother country in return for the prosperity and riches they enjoy. Their gratitude in that respect, and the duty they owe, indispensably oblige them to be immediately dependent on their original parent, and to make their interest subservient thereunto. . .

"From the end of the establishment of colonies, result two kinds of prohibitions. First, it is a law founded on the very nature of colonies, that they ought to have no culture or arts, wherein to rival the arts and culture of their parent country. For which reason, a colony, incapable of producing any other commodities than those produced by its mother country, would be more dangerous than useful ; it would be proper to call home its inhabitants and give it up.

"Secondly, colonies can not in justice consume foreign commodities, with an equivalent for which their mother

¹ Perhaps the words *definite* and *logical* are too strong to apply to a series of acts passed to meet particular conditions, and which were frequently haphazard and unrelated. It is possible today to constitute out of these acts a coherent system, but it is improbable that this was logically thought out and applied by the men who enacted the legislation. In view of the confused political situation in England during most of this time and the overshadowing importance of the struggle between Parliament and the Crown, it would moreover have been difficult to carry through a consistent policy.

² Malachy Postlethwayt, *Britain's Commercial Interest Explained* (London, 1747), I, 107-108.

country consents to supply them ; nor sell to foreigners such of their own commodities as their mother country consents to receive. Every infringement of these laws is a real, though too common, robbery of the mother country's labourers, workmen and seamen, in order to enrich the same classes of men belonging to rival nations, who will sooner or later take advantage of it against those very colonies.

"From these principles it follows, that colonies are designed for culture only, and that the navigation occasioned by that culture belongs to the seamen of the mother country."

The same idea was expressed even more bluntly by Sir Francis Bernard, long governor of Massachusetts: "The two great objects of Great Britain in regard to the American trade must be: 1. to oblige her American subjects to take from Great Britain only, all the manufactures and European goods which she can supply them with ; 2. to regulate the foreign trade of the Americans so that the profits thereof may finally center in Great Britain, or be applied to the improvement of her empire."

The general principle then was that the colonies should be used for the benefit of the mother country, and is well expressed in Lord Sheffield's famous observation that "the only use and advantage of American colonies, or West-India Islands, is the monopoly of their consumption and the carriage of their produce." There was indeed a certain justification for this position since the colonies were, at least during the eighteenth century, a constant expense to England, and it seemed only fair, therefore, for the mother country to use their resources for her profit. The attitude of England in this regard was considered by Adam Smith "less illiberal" than that of other nations. No country in the eighteenth century allowed foreigners to carry on trade with its colonies ; such was the policy of Spain, Holland, and France, as well as of England. This policy has usually been thought, however, to have injured the English colonies in America and to have imposed upon them heavy and unjust burdens, which eventually led to revolution. It will be worth while, therefore, to inquire somewhat carefully into the colonial

policy of England to 1763, in so far as it affected the commercial and industrial development of the American colonies.

The regulation of the carrying trade.—Encouragement of shipping had been provided for by legislation since the middle of the fourteenth century, but the definite commercial policy of England is usually held to date from the famous Navigation Act of 1651, passed by the Parliament of the Commonwealth under Cromwell. The merchant class, which had for the most part taken the side of Parliament against the King, now sought to obtain legislation in their favor. Much of the trade of England and of her colonies was at this time being carried on in Dutch ships, and it was desired both to cripple Holland and to build up English shipping by confining English trade to English vessels. The act required that all colonial exports to England were to be carried in ships owned and operated by Englishmen; and that European products were to be taken to England or the colonies only in English vessels or in ships of the producing country or of the country of usual exportation. Since the word *English* was interpreted to include *colonial*, this act aimed to give a monopoly of the carrying trade between England or the colonies and other countries to British (i.e., English and colonial) shipowners, for the purpose of building up British shipping.

The Navigation Act of 1660, in so far as it related to the carrying trade, simply strengthened these provisions.³ At first this act bore rather heavily upon the planters in Virginia and Maryland for the scarcity of British ships caused the freight rates to go up, but the law was not strictly enforced and considerable tobacco continued to be carried in Dutch ships. This difficulty, however, was only temporary for English and colonial ships were rapidly built and were soon able to take care of the colonial carrying trade; between 1660 and 1688 the merchant marine was doubled. On the other hand, this monopoly greatly stimulated the shipbuilding industry in the colonies and gave greater opportunity to the colonial carrying trade. It was indeed an advantage to the mother country to have New England vessels carry

³ For the latter act, see Bogart and Thompson, *Readings*, 118-120.

cargoes on the long voyages between England and the colonies, and especially to care for the American coastwise trade, for this set free English ships for the more profitable European commerce.

Shipbuilding.—Shipbuilding soon became the most important industry in New England outside of agriculture. Indeed, colonial vessels soon began to be sold in England and to displace English vessels in the carrying trade; this called forth protests from English shipbuilders, which, however, were never heeded by Parliament. By 1775 it was estimated that one-third of the ships engaged in British trade were colonial-built. Certain branches of this trade were almost monopolized by New England vessels, for the shipping interests of England did not care to make a practice of carrying cargoes to places from which no return cargo was available. Consequently, a large part of the carrying trade between England and the northern colonies (whose chief products were excluded from the mother country), between the colonies and southern Europe, the intercolonial trade, and other minor trade routes, were relinquished to New England vessels. Colonial shipping was also helped by the growth of English naval power, which protected it from foreign enemies and from pirates, by the concentration of trade routes and by the development of the English empire which opened up new ports in the rest of the world. ✓

Regulation of colonial exports.—The act of 1660 was designed to make England the distributing point or *entrepôt* for certain colonial staples. Certain "enumerated" commodities were not to be sent to continental Europe, but were first to be landed in a British port, from which they could be reshipped to the Continent after the payment of customs duties;⁴ but they could not be exported directly from the colonies to any foreign country. By this act the English merchants were to be given the profits from handling these goods and English manufacturers were to have first opportunity of using valuable raw materials and supplies which could not be raised at home.

The original list of enumerated articles included seven colonial products: sugar, tobacco, raw cotton, indigo, ginger, ✓

⁴ For exception in the case of tobacco see p. 168.

fustick, and other dye-woods. It was considerably expanded during the eighteenth century by the addition of various other commodities: naval stores, such as tar, pitch, turpentine, hemp, masts, and yards (1704); molasses and rice (1706); copper ore, beaver skins, and other furs (1722); bar and pig iron, whale fins, hides, lumber, raw silk, and pot and pearl ashes (1764). The monopolization of rice and sugar to English markets became impolitic if not impossible as the production of these commodities in the colonies increased far beyond the power of consumption in England, and the laws were somewhat relaxed with regard to them. The shipment of rice was permitted after 1730, and of sugar after 1739, direct from the colonies to any part of Europe south of Cape Finisterre, on the northwest corner of Spain; as the countries to the south of this point were not manufacturing countries England was less jealous of colonial trade with them. But this exportation to the Mediterranean or other south European countries could be carried on only in English ships; colonial vessels were permitted to transport rice and sugar only to England or to some other British colony.

The non-enumerated commodities could originally be sent to any part of the world, including England. No restrictions were placed by the Navigation Acts until 1766 upon the markets for commodities of this sort. Other legislation, however, such as English tariffs and early corn laws, prohibited the importation of certain foodstuffs into England for the purpose of protecting English agriculture. After 1660, for instance, New England fish were entirely excluded from the English markets; other articles affected were wheat, corn, flour, and meat, all staple exports of the New England and middle colonies. Articles other than foodstuffs could, however, be sent to England, and, as a matter of fact, were shipped there in large quantities, for to them London offered the best market; such were iron, lumber, pot and pearl ashes, whale fins, and similar commodities.

Enumerated articles.—Of the original group of seven enumerated commodities only one—tobacco—was a product of the American continental colonies; the rest were from the West Indies. But tobacco was so important to Virginia

and Maryland, forming their great staple crop and constituting one-half of all colonial exports, that the whole principle of restriction may be justified or condemned by its effect on this one article. By the act of 1660 tobacco could be shipped only to England or to English colonies; in 1698 about one-third of the tobacco shipped to England was consumed there, the other two-thirds being exported to the continental nations, chiefly France, Holland, and other northern states, but by 1775 four-fifths of the colonial tobacco was re-exported. On such shipments a drawback of the import duty was allowed, but the additional freight and warehouse charges went into the pockets of English middlemen. On the other hand, the growing of tobacco in England and Ireland was prohibited after 1660, and heavier duties were imposed on Spanish and other tobacco, thus guaranteeing to the Virginia tobacco planter a monopoly of the English market. On the whole there was so nice a balance of gains and losses that so competent an authority as Beer⁵ considers it doubtful whether Virginia would have welcomed complete free trade, with a removal of all restrictions and of all special privileges.

The inclusion of rice in the list of enumerated commodities in 1706 imposed a real hardship on the Carolina rice-growers by depriving them of the Spanish and Portuguese markets; that this was regarded as an injury is proved by the relaxation of the law in 1730 so as to permit the direct exportation of rice to any country south of Cape Finisterre. The restriction in 1704 of naval stores (i.e., tar, pitch, turpentine, hemp, masts, and bowsprits) to the English market was probably more than offset by the granting of bounties for their production. By the time the exportation of beaver skins was regulated in 1722, the fur trade was already passing from the American colonies to the French in Canada, but for a time the restriction was keenly felt by certain sections of the colonies.

Regulation of colonial imports.—Having excluded foreign ships from the trade with the colonies and having required that certain colonial exports go through English ports, Parliament next undertook to regulate, through the Staple Act of 1663, the importation of European goods into

⁵ *The Old Colonial System, 1660-1754*, II, 116.

the colonies. The law of 1663 prohibited the importation into the colonies of any commodities of the growth, production, or manufacture of Europe, unless from English ports and in British-built and manned shipping. The only articles excepted were salt for the fisheries, wine from Madeira and the Azores, and all sorts of provisions from Scotland and Ireland. The purpose of the act was to make England the "staple" or depot for all this trade and to give to English merchants and shippers the profits from handling all European goods that were sent to the colonies.

The colonists were not forbidden to import European goods; only they must go to England for them. This meant, for instance, that a New England vessel, after carrying a cargo of lumber to the Azores or fish to Spain, would be obliged to return empty (except for wine from the former or salt from the latter), or to make a roundabout trip and load in England for a return cargo on the way home. A little noticed act of 1736 forbade English and American shipbuilders to make sails of material manufactured outside the British isles;⁶ in this case therefore New England shipowners were restricted to British products. The rigor of these restrictions was eased by the granting of drawbacks of duties upon most European goods re-exported from England to the colonies. Drawbacks were not given on iron and steel, cordage, and sailcloth in order to afford protection to English manufacturers of these articles.

While English merchants and factors were thus afforded an opportunity of pocketing a middleman's profit and English manufacturers were assured a market for their products, the prices of such goods to the colonists seem to have been little if any higher as a consequence, since England was the natural place in which to purchase articles for sale in the colonies.

The Molasses Act.—Wholly short-sighted, however, was the restriction, by the imposition of prohibitive duties in the Molasses Act of 1733, upon the importation into the colonies of sugar, molasses, and rum from foreign plantations. This law, if enforced, would have destroyed the extremely profitable trade carried on between the continental colonies and

⁶ P. Mantoux, *Industrial Revolution in the Eighteenth Century*, p. 101, n. 2.

the foreign West Indies. Since France had a flourishing brandy industry at home which she wished to protect, she forbade the importation into France of rum from her colonies. Holland did the same because of her gin industry. It followed, therefore, that in the French and Dutch islands molasses, which had little use except as the raw material for the basis of rum manufacturing, was frequently thrown away as a waste product or sold at a much lower price than in the British West Indies. And it did not take the Yankee traders long to discover that they could obtain much better bargains in molasses from the foreign islands than from the British; from the latter the northern colonies bought only seven per cent of the molasses which they used for the distillation of the rum which formed the basis for the lucrative three-cornered trade with Africa.

The products of the northern colonies, moreover, were in great demand in the French and Dutch West Indies, and the fish of New England, the flour and bread of the middle colonies, and the cattle, horses, and especially lumber of both sections, found a ready market in exchange for the sugar, molasses, cotton, logwood, indigo, and other tropical products of the West India islands.

The economic necessity for this trade lay in the fact that the British West Indies offered only a limited market for these products, while the agricultural production in the American continental colonies was rapidly increasing. The French, Dutch, and Spanish islands, on the other hand, were dependent upon these northern supplies.

Complaints were forwarded by British sugar planters to the home government and the powerful West Indian lobby in London appealed to Parliament for the protection of their special interests. These groups insisted that the trade between the continental colonies and the foreign sugar islands was responsible for the decline of the sugar industry in the British West Indies.

In spite of protests from the continental colonies, Parliament imposed by the Act of 1733 practically prohibitory duties on sugar and molasses imported into those colonies from the foreign West Indies. Rum and spirits were to pay ninepence per gallon, molasses and syrup sixpence, and sugar

five shillings per hundredweight. Trade with the French and Dutch West Indies would have been destroyed by this act, had it not been generally disregarded. Since the object of the act was to aid the maintenance of the declining British sugar industry, the American colonies were sacrificed, not to the supposed best interests of English manufacturers and merchants, but to the greed of British West Indian planters.

The willingness of Parliament to grant such legislation is interesting evidence of the high esteem in which they held the sugar colonies as compared with New England, and of the power of the sugar interests in London. In practice, however, the act remained a dead letter. More serious to the continental colonies was the strict enforcement of the lower duties provided for in the Sugar Act of 1764, discussion of which, however, must be deferred to the next chapter.

Restrictions upon intercolonial trade.—There was still one other branch of commerce which had remained open to the colonies and that was the trade with each other. The act of 1660 had not imposed any restraints upon the intercolonial trade, but certain irregularities in carrying out other provisions of the Navigations Acts had developed. Virginia planters, for instance, would send their tobacco to New England, whence it could easily be reshipped, perhaps by collusion with English customs officials, to the Continent, escaping the payment of English duties and underselling the English merchant. The law was also evaded by transferring the tobacco from colonial to Dutch vessels at sea. Since the colonial vessels which carried the tobacco to continental Europe would not dare seek a return cargo in England nor wish to return home empty they generally brought back European goods direct from the Continent, thus disobeying the act of 1663 as well as that of 1660. Such direct trade, which did not pass through an English port, also occasioned various indirect losses: owners of English wharves lost the wharfage fees, stevedores lost employment in unloading and loading the vessels, merchants lost the profits from handling the goods, manufacturers lost the sale of their products, and the King lost the revenues.

In order to make these acts effective the colonial Duty Act of 1673 was passed, requiring that every vessel carrying

exports of enumerated articles must either give a bond of £1000 to £2000 that the commodities would be landed in England, or a small export duty must be paid on them. The intention of Parliament seems to have been that the intercolonial trade must be carried on by way of England or pay export duties, but the ambiguous phraseology of the law gave a chance for diverse interpretations. The colonists were disposed to evade paying export duties on enumerated articles shipped to a colonial port. They also insisted that if they paid the export duty they had a right to ship the commodities from the intermediate colonial port to any foreign country, and the denial of this right was one of the chief grievances of New England against the laws of trade.⁷ Parliament, however, was determined that the export duties should be paid if the enumerated articles were shipped to another colony, and that a bond must also be given that they would be delivered in England or at an English plantation, unless consumed in that colony.

The Board of Trade.—The administrative measure of 1696 enacted this view into statute, and provided the machinery for strict enforcement of the earlier acts. Not only were defects in administration remedied, but a system of registration for British vessels, whether owned in England or in the colonies, was established; a regular body of royal officers was substituted for the occasional collectors, commissioners, and others who had previously represented the interests of the home government in colonial affairs; and an elaborate system of admiralty courts was established. This was followed a few years later by a new set of instructions for the royal governors: in order to insure imperial control all governors not appointed directly by the King had to be approved by him; they had to take oath to enforce the Navigation Acts, and failure in this respect exposed them to heavy fines and loss of office. Moreover, all colonial laws at variance with the acts of trade were declared null and void. But perhaps the most effective piece of machinery was the establishment of a permanent Board of Trade and

⁷ Beer, *The Old Colonial System*, 1660-1754, II, 282. The other chief grievance arose from the Act of 1663, which obliged vessels taking fish to the Mediterranean countries to return home via England.

Plantations, which functioned until the very eve of the Revolution. In this body was centralized the oversight over colonial affairs. It was primarily concerned with the promotion of commerce, but it also supervised other branches of colonial administration and legislation.

The usefulness and power of the Board varied greatly, depending largely upon the personnel and the policy of the government. From 1696 to 1713 it sought vigorously to enforce the acts of trade and evoked loud complaints from colonial merchants; between 1715 and 1748, a period of peace for England, there followed the policy of "wise and salutary neglect," as Burke called it, when the colonies were permitted to develop almost untrammelled both politically and economically. The result was that the colonists developed trade and manufactures on their own account, and enjoyed an era of unprecedented prosperity.

Restrictions upon manufacturing.—During the eighteenth century manufactures were developing in England, and as the colonies became more important the English manufacturers demanded not only protection at home against colonial competition, but also the monopoly of the colonial markets in which to dispose of their own products. Indeed, the prevention of manufactures in the colonies was an integral part of the imperial system and merely complemented the restrictions of the Navigation Acts; throughout this whole period Parliament watched most jealously every sign of the growth in the colonies of manufactures which might compete with home industries.

Three times Parliament took the alarm and passed legislation restricting or prohibiting colonial manufactures. In 1699 the exportation of wool, yarn, and woollen cloth from the colonies "to any other of the said plantations, or to any other place whatsoever" was prohibited. Household manufacturing of woollen yarn and cloth for domestic use was not forbidden the colonial housewives, but the possible exportation of these articles in competition with the growing woollen industry of England was prevented. Some manufacture of cloth for sale had already been attempted in New England, New York, and Pennsylvania, as is evidenced by the reports of the colonial governors to the Board of Trade, and some

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homemade cloth was being exported to the southern colonies and to the West Indies;⁸ the trade in these products was now stifled.

The second industry upon which Parliament cast a jealous eye was hat-making. In 1732 a Commission of Inquiry was ordered by the House of Commons to investigate manufactures in the colonies and they reported that "great quantities of hats" were being made in New England, partly from beaver skins. These skins being cheaply obtained in the Indian trade, the manufacture of beaver hats had become an industry of minor importance in New England, New York, and Pennsylvania, and some hats were being exported to the West Indies, Spain, and Portugal. The Company of Feltnakers became alarmed and successfully petitioned for protection against this competition, so that Parliament in 1732 prohibited the exportation of hats to a foreign country, to England, or to another colony, and also limited the number of apprentices to a master to two and required an apprenticeship of seven years.⁹ The law was not strictly enforced and some hats continued to be made in the colonies, although the finer grades were imported from England.

The last restriction was more serious. The smelting of iron and the manufacture of simple ironware, tools, and implements had been practiced in the colonies from an early date.¹⁰ The smiths and other ironworkers in England had petitioned Parliament concerning this industry as early as 1717, but nothing was done until 1750 when a law was passed which had a two-fold purpose: first, to encourage the smelting and export of raw iron to England, and second, to prevent the working up of the crude iron into manufactures in the colonies. The act provided, (1) that bar and pig iron might be imported into the port of London free of duty (in 1757 this was extended to any port in England), while foreign iron was subjected to heavy import duties; and (2) that the erection in the colonies of slitting or roll-

⁸ See extracts showing the development of colonial manufactures in Bogart and Thompson, *Readings*, 60, 68.

⁹ This was simply an application to this industry in the colonies of legislation long since familiar in England.

¹⁰ See Chapter V.

ing mills, plating forges, tilt hammers, or steel furnaces should be prohibited.

England was importing annually some 20,000 tons of Swedish and foreign iron and hoped by this act to stimulate the production in the colonies of the raw material which she needed for her developing iron manufactures. Iron ore was smelted at this time by charcoal and the English forests had been practically used up by the middle of the eighteenth century so that the country was absolutely dependent upon foreign supplies. Moreover, the development of iron manufactures in the colonies did not fit in with the colonial policy of England.

The act permitted such establishments as were already in operation to continue, but if new ones were constructed they were to be abated as nuisances under a penalty of £200. Apparently such things as kettles, salt pans, and other cast iron products could still be made in the colonies since casting furnaces were not prohibited. The act was fairly well enforced, though slitting mills seem to have been operated in contravention of its provisions; had these been closed down even the making of nails, necessary for building, horse-shoeing, etc., and spikes, bars, and other shapes essential to shipbuilding would have been prevented. The colonies had reached a point in their industrial development when they could advantageously establish an iron industry, and this act was a severe blow, especially to New England. The exportation of bar and pig iron, on the other hand, increased slowly from about two thousand tons in 1745 to over seven thousand tons in 1771, but as these were produced in Virginia and Maryland the irritation of the northern colonies was not mitigated by this fact.

The legislation prohibiting manufactures was the more irritating because the restrictive tariff and commercial policy of England, by shutting the English markets to the agricultural products of the northern colonies and by hindering their exchange in the West Indies, made it difficult for the colonists in the northern section to obtain the means with which to purchase English-manufactured commodities. The effect of these laws was, if anything, to stimulate manufac-

tures in those colonies. In the southern colonies, whose staple products were not thus prevented from finding a profitable market, manufactures never gained a foothold.

Encouragement to industry.—On the other hand, it should be noticed that along with the policy of restriction there went also the policy of encouragement. While manufactures were stifled, the production of raw materials was favored by an extensive system of bounties, from 1705 on, especially on hemp, masts, naval stores (tar, pitch, turpentine, and resin), and indigo (after 1748). One estimate makes the amount paid in bounties to the colonies more than £1,500,000. Other articles were favored by being admitted to England free of duty or at greatly reduced rates. Thus colonial lumber of all kinds, such as pipe, hogshead, and barrel staves, was placed on the free list in 1723, when imported into England. Pig and bar iron were admitted duty free after 1750 while Swedish iron was held off by a heavy tariff. Since wood was used for smelting at that time, and not coal, the colonies were well adapted to the production of raw iron. Other articles, as tobacco, molasses, raw silk, pot and pearl ashes, whale fins and train oil, etc., were at different times admitted to England either free of duty, or at rates much lower than similar articles from other countries, although the general rule was that products from the colonies paid the same duties as similar articles from foreign countries.

✓ In general the commercial policy of England was designed to keep the colonies in the state of agricultural communities, which should supply raw materials to English manufacturers and furnish a market for their finished products. "Taken as a whole," writes a friendly critic¹¹ of the English policy, "the acts of trade may best be understood as an application to the English empire of what is now called the protective principle, that is, the protection of English subjects against foreign competition. The empire was treated as an economic whole, so far as possible independent of the outside world, in which each part had its particular function to perform." That was the theory, but in fact the colonies were so far removed from the mother country both in distance

¹¹ E. B. Greene, *The Foundations of American Nationality*, 18A.

and in time required for communication that effective administrative control could not be established, and the colonies tended to develop an autonomous and independent economic life. There has been much controversy over the question of the effect of the English colonial policy upon the colonies, but a fair conclusion seems to be that on the whole the industrial and commercial development of the colonies was very slightly affected by the acts of trade, and that they carried on those industries which were to them of the greatest advantage. More important than the economic effects of the commercial legislation were the political consequences, which led ultimately to Revolution.

Evasion of restrictions.—The situation in the colonies and the silent acquiescence of the colonists in this policy cannot be fully understood unless we understand to how great an extent the provisions were evaded. In the first place, the laws were allowed to become dead letters or were not strictly enforced by English officials. Except for the short period from 1696 to 1715 when there was comparatively strict execution of the laws, the policy of "salutary neglect" of the colonies was adhered to by government officials. Indeed, there was often connivance of the custom officers in the evasion of the laws. In the South there was some illicit trade with the West Indies, while considerable went to other countries than England. Most of the smuggling occurred in New England and the middle colonies, where large quantities of wines, brandies, and other European goods, together with tea, coffee, spices, etc., from the East Indies, were smuggled into the larger cities. But the most extensive illicit trade was carried on with the West Indies. In 1700 one-third of the trade at Boston and New York was said to be in violation of the law.

It must be remembered, however, that such contraband trade was regarded in the colonies as perfectly justifiable in view of the restrictive commercial legislation, and that some of the most reputable men were engaged in it. On the coasts of England itself, it is estimated that there were at this time about forty thousand smugglers. The restrictive legislation, writes J. T. Adams, made "a large section of the colonial population smugglers and law breakers by necessity,

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it lowered the moral tone of the community and decreased the respect for law." Certain it is that the general practice of smuggling and the evasion of the laws made the restrictive legislation of England bear less heavily upon the colonists than it otherwise would have done. Indeed, had it not been for the profits from this illicit trade, the colonies would never have been able to pay for the enormous amount of British manufactures and European commodities annually imported from England; for the first half of the eighteenth century these amounted on the average to about £500,000 a year and were paid for only in part by the colonial products exported directly to England.

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CHAPTER VIII

ECONOMIC CAUSES OF THE REVOLUTION

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Economic causes of the Revolution.—A century and a half of discussion of the American Revolution has served only to emphasize the importance of the economic and social causes as compared with the political. The usual explanation of the conflict has been that it was an uprising of an oppressed people against the autocratic and unconstitutional acts of a stubborn king. But the causes of friction, as shown in the previous chapter, were more deep-seated and long-continued than this theory admits; they were bound up in the relationship of empire and colony, in the mercantile policy which governed their commercial relations, and in the conflicting interests of English merchants and manufacturers on the one hand and of the developing colonial commerce and industry on the other. In considering these causes, the discussion may well begin with the year 1763, for this may be taken as marking in a very real sense the beginning of the American Revolution.

In that year Great Britain concluded the Treaty of Paris after the successful termination of the Seven Years' War with France, or, as it was more frequently called in America, the French and Indian War. As a result of this struggle the British possessions had grown enormously, and the thirteen colonies now constituted but a small part of an unorganized and scattered empire. Colonial organization and administration were needed in place of the haphazard and unsystematic methods which had prevailed even under the Board of Trade. A closer integration and control were held to be essential, not only for purposes of administration, but also for defense against England's traditional enemies, France and Spain. It seemed only fair, moreover, that in the future the expenses of such wars as that just concluded

with France, waged partly on behalf of the colonists, and of frontier conflicts with the Indians, should be borne, in part at least, by those benefited. Accordingly, a more vigorous policy of colonial taxation and control began to be enforced by successive English ministries. "Fundamentally," writes Schlesinger, "the greatest problem of the decade following the peace of 1763 was the problem of the reconciliation of centralized imperial control with colonial home rule."¹

To this program there were two insuperable obstacles — time and space. For a century and a half the colonies had been growing in size and power and economic development. They had, moreover, enjoyed a large measure of local self-government or home rule, in some respects greater than that exercised by Englishmen at home. Under the policy of "salutary neglect" the colonies had learned not merely to evade the acts of trade, but to manage their political affairs with a minimum of interference. But the new imperial policy meant for the colonists unaccustomed tax burdens, the destruction of a lucrative trade, and serious restriction in the large measure of home rule which they had enjoyed. It was consequently resisted. By 1763 the policy of strict imperial control was an anachronism; it was instituted too late, and the time for it had passed. Delay made it impossible.

Not merely time, however, but also space worked against it. Even in favorable circumstances it took four months for a reply to be received by the Board of Trade to an inquiry sent to a colonial governor. So uncertain was Parliament of actual conditions in the new country that a proviso was frequently added to laws for the colonies, that they should be enforced only so far as circumstances allowed. As a result of their distance from the mother country the colonists learned to manage their own affairs and to care for their own economic interests to an extent not contemplated by the English colonial system. In theory the empire was a single unified state; but in practice it was a loose federation of somewhat independent states whose bond of union was allegiance to a common monarch. With some

¹ A. M. Schlesinger, *New Viewpoints in American History* (New York, 1922), 164.

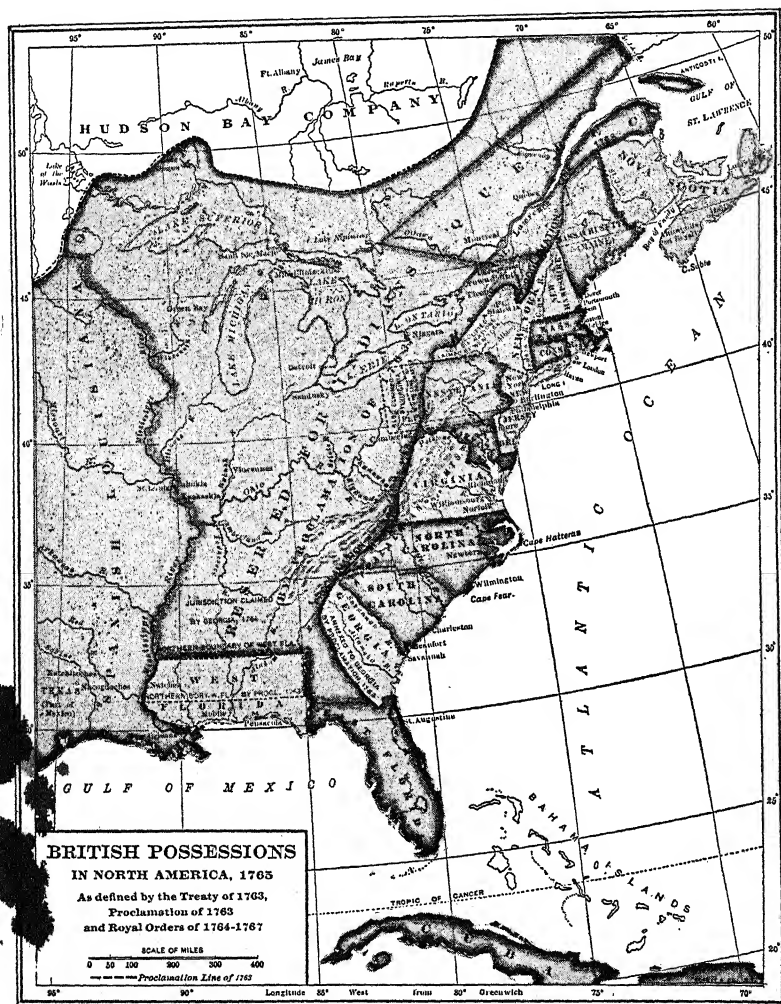
exaggeration Adam Smith was able to say, "In everything except their foreign trade, the liberty of the English colonists to manage their own affairs their own way is complete."

It is clear today that, while the colonists usually got their way in internal affairs, it was not without considerable friction. The thousands of complaints and protests, vetoes and instructions which were recorded in the official papers of English and colonial authorities for controlling American commerce and industry, as well as political affairs, show how difficult imperial control was. There was a conflict between British mercantilism and the self-interest of the colonists.

Changes in the English colonial policy.—One of the first problems which presented itself was the disposition and administration of the territory gained from the French. As a temporary arrangement, to gain time for further study, the British government by the royal Proclamation of 1763 organized three new provinces out of the conquered territory on the continent: Quebec, comprising the St. Lawrence valley, East Florida, and West Florida. The territory between the Appalachian Mountains and the Mississippi was to be treated as an Indian reservation, from which all settlers must withdraw and in which the colonial governors were forbidden to make further land grants. Fur-trading was also prohibited to the colonists except by royal license.

✓ Westward expansion was thereby forbidden and settlement was restricted to the seacoast.² This prohibition was particularly irritating to the people of Virginia with their large charter claims to western lands, to pioneer colonists who had already settled there, and to land speculators and promoters who hoped to establish new settlements in the western country. The purpose of the act was to protect the Indians and to prevent Indian wars, to restrict the fur trade, and to encourage the consumption of English manufactures by keeping the settlements on the seacoast and so accessible to English commerce; but it was the first of the many blunders in the new imperial colonial policy, for it aroused profound discontent among the colonists, who rightly felt that their interests were being sacrificed to those of English

² For an account of the reasons for this Proclamation as given by the Board of Trade, see Bogart and Thompson, *Readings*, 144-6.



[From G. E. Howard, *Preliminaries of the Revolution*]

manufacturers and of the Hudson Bay Company. It is probable that this act contributed more than the acts of trade to the Revolution; it certainly did more to alienate the influential colony of Virginia.

The second step in the process of tightening the bonds on the colonies in the furtherance of a more efficient colonial administration was taken by the extension to all the colonies

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of a more rigorous enforcement of the acts of trade. The list of enumerated articles, which could be sent only to England, was extended in 1764 by the addition of such important colonial products as bar and pig iron, lumber, hides, whale fins, raw silk, and pot and pearl ashes. Two years later it was provided that non-enumerated exports could be sent only to England or Ireland or to countries south of Cape Finisterre. The colonial ships which had carried these exports to northern Europe had been too easily tempted to take back cargoes of foreign goods without going to England for them. It was hoped by this act to force the colonists to buy their manufactures only in England. During the previous twenty years the importance of the American market had greatly increased and English manufacturers did not wish to lose it. In 1747 British exports to the West Indies and to the continental colonies were about equal; in 1767 the latter were double the former, and had moreover trebled in these twenty years. The industrial revolution in England required not only raw materials, but markets also and these were looked for in America. In 1776 the list of enumerated articles was made all-inclusive, to cover every product of all the colonies, although a number of articles might still be exported to the countries south of Cape Finisterre.

Another phase of the movement to enforce the British mercantilistic regulations was the extension to all the colonies of the prohibition of the issue of colonial bills of credit. This was simply the final stage in a process which had been going on since 1741, when Parliament had declared its authority over the matter. In 1751 it had prohibited paper money in New England, and now the Currency Act of 1764 made the restriction general. The reasons given by the Board of Trade for this act were that paper money drove the gold and silver out of the colonies, that debtors made paper money with fraudulent views, and that English merchants trading to America had suffered and lost by such issues.³ Of these alleged reasons Franklin seemed to think that the last named was the actual one, for he charged that "on a slight complaint of a few Virginia merchants, [i.e.,

³ See Bogart and Thompson, *Readings*, 146-7.

English merchants trading with Virginia] nine colonies have been restrained from making paper money, become absolutely necessary to their internal commerce, from the constant remittance of their gold and silver to Britain."

Though the merchants trading with Virginia may have been few, the debts which were owed them were enormous. Their extravagant scale of living, the extended use of credit, and the wasteful system of marketing led the tobacco planters ever deeper into debt to their London factors, with the result that, as Franklin testified, "these debts had become hereditary from father to son, for many generations, so that the planters were a species of property annexed to certain mercantile houses in London." To meet this situation, the provincial assemblies passed lax bankruptcy laws and similar legislation designed to favor the local debtors, but these were generally vetoed. The tightening up of control along this line therefore stirred up animosities which had a long history. When revolution flamed out all those elements in the colonies which favored cheap and abundant money were immediately ranged on the side of the revolutionists, both the merchants of New England and the planters of the South.

✓ The third problem which claimed attention was that of taxation and primarily of the customs administration. This had been notoriously lax, and it was now decided by George Grenville, who became prime minister in 1763, and by his advisers in the Board of Trade, that the customs acts should be revised and enforced. ✓ Not merely was the administration to be tightened up, but the acts of trade themselves were to be so revised as to yield a revenue. ✓ From the British point of view the Grenville Acts, the Townshend Acts, and the North Acts were intended to raise revenue rather than to regulate commerce. ✓ Grenville discovered that the entire "revenue derived by England from the custom houses in America amounted to between 1000 l. and 2000 l. a year; and that for the purpose of collecting this revenue the English exchequer paid annually between 7000 l. and 8000 l."⁴ The English national debt had been greatly

⁴ George Grenville, *The Regulations Lately Made Concerning the Colonies and the Taxes Imposed upon them Considered* (London, 1763), 57.

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increased by the war, from near £72,000,000 to almost £140,000,000, and taxes were pressing heavily on the English taxpayer. It seemed to Grenville and his advisers that the colonies, which had been rapidly growing in population and wealth, might fairly be asked to contribute to imperial expenditures, and that such revenue could best be obtained through an act of Parliament. The proceeds were to be paid into the imperial exchequer, and to be used to defray part of the cost of the army of 10,000 men which it was proposed to maintain in America. For the purpose of raising this revenue the Sugar Act of 1764 was passed.

✓ **The Sugar Act.**—By this act the Molasses Act of 1733 was confirmed and extended, but the duties under it were modified. The duty on molasses of 6*d* a gallon, which would have been prohibitory if collected, was reduced to 3*d*, but was to be enforced; that upon sugar from the non-English West India islands was raised; and at the same time by other acts the colonists were absolutely forbidden to import rum or spirits from foreign countries, or to trade with the French West Indies. Duties were also laid upon indigo, coffee, wines, silks, calicoes, and other East Indian and Oriental goods imported into the American colonies. New and severe regulations for the enforcement of the acts were also prescribed, for the purpose of collecting the duties and of preventing smuggling. Among these measures were the authorization of the use of naval vessels as revenue cutters, the enlargement of the jurisdiction of the admiralty courts in revenue cases, and the admonition to colonial governors to prevent illegal trading.

The passage of this act created consternation in New England. It "caused a greater alarm in this country," wrote Sir Francis Bernard,⁵ governor of Massachusetts, "than the taking of Fort William Henry did in 1757." If enforced, it meant the destruction of the profitable West India trade upon which the prosperity of this section was based and by means of which remittances were made to England. Lord Sheffield stated that over two-thirds of the sugar consumed

⁵ *Select Letters on the Trade and Government of America* (London, 1764), 9. Quoted in Bogart and Thompson, *Readings*, 152-3.

in America came from the foreign West India islands. It was estimated that there was an unfavorable balance against the continental colonies in their trade with England of about £500,000 annually, and this was obtained by the indirect trade with the West Indies. This act injured both fair traders and smuggling merchants and threatened bankruptcy to the thriving mercantile houses of the seaport towns. The protest made by the Massachusetts general court against the Sugar Act stated that, because of the impossibility of obtaining a return cargo of sugar and molasses, it would destroy the fishing industry, rendering useless the vessels, casks, provisions, lumber, houses, and other commodities used in this trade, and would throw five thousand seamen out of employment.

Particularly irritating was the requirement that the sugar tax be paid in specie. By the Currency Act of 1764 the colonists had been forbidden to issue paper money; now the only method by which they could obtain specie was closed to them. The supply of paper money was reduced just at the time when the dwindling importations of Spanish coins made the use of specie impracticable. And yet they were required to provide specie for the tax. Memorials, petitions, and resolutions against the ruinous Sugar Act were forwarded to Parliament, and pamphlets were written and speeches made in the colonies. In fact a recent writer on the subject attributes to the irritation over this part of the English commercial policy much of the feeling against Great Britain which has in the past been assigned to the Stamp Act.

✓ **The Stamp Act.**—While the alarm and discontent were at their height came the news of the impending passage of the Stamp Act. Again remonstrances poured in upon Parliament, but they were not taken seriously, for, as Grenville said, "All men wished not to be taxed." In March, 1765, the Stamp Act was passed with little debate or opposition. It provided that taxes be paid, through the use of stamped paper, on legal transactions such as bills, notes, bonds, deeds, and mortgages; on licenses to practice law or sell liquor; on newspapers, pamphlets, college diplomas, and playing cards. Not merely were the stamp duties

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heavy, but severe penalties were imposed for violations of the law, and governors were ordered to be careful to enforce the act.

The violence and extent of the opposition in the colonies created by this act were undoubtedly a surprise to the British government, but there were certain features about the Stamp Act which made it a better rallying point than the measures which had preceded it. ✓ The Sugar Act affected primarily the New England fishers, shippers, and rum-distillers, the Currency Act touched only a section of the population, and the prohibition of westward expansion checked merely the frontiersmen ; but the Stamp Act struck at every class in all the colonies. Since it especially affected the printers and lawyers, it stirred into activity two particularly vociferous groups. But even more important from a political point of view was the fact that it was an "internal" tax. "External" taxes, that is, customs duties levied at the ports by Parliamentary act, were familiar, but here was an innovation. And it was an innovation that furnished a magnificent slogan—"no taxation without representation." To make the situation yet more intolerable, the tax program was strengthened by the Mutiny Act of 1765, which provided for sending to the colonies the troops needed to enforce the laws, and by the Billeting Act, which specified the conditions under which the colonists were to house and feed the troops sent to "protect, defend, and secure."

Non-importation agreements.—Gradually the excitement grew, as the colonists came to realize more clearly the implications of the act. ✓ The Stamp Act Congress, which met in New York in October, 1765, passed resolutions protesting against the principles of the law. But more decisive than resolves or pamphlets was the complete nullification of the law through mob violence and terrorization. The stamps were destroyed, the stamp distributors were forced to resign, and on the day the taxes were to go into effect it was impossible to comply with the requirements. Newspapers were published, ships took out their clearance papers, and business proceeded without the use of stamped paper. Nullification was complete. ✓ Even more effective, however, in forcing a repeal of the obnoxious measure was the non-

importation agreement entered into by the merchants of New York, Massachusetts, Rhode Island, and Pennsylvania. They agreed not to import any goods from Great Britain; to countermand orders already given; not to remit their English debts; and to refuse to sell British goods sent on commission until the Stamp Act of 1765 should be repealed. At the same time the people generally agreed to abstain from the use of goods which were not of domestic manufacture, and in other ways to promote domestic manufactures as far as possible.

✓ As a result of these agreements the demand for British goods fell off, merchants curtailed their shipments, and some English manufacturers were even compelled to close their mills. Exports from England to the thirteen colonies declined from £1,925,564 in 1764 to £1,580,324 in 1765. A serious depression occurred in England. In this state of things English merchants joined with colonial legislatures in demanding the repeal of the obnoxious measure which had caused all this distress. They said that the "colonists were indebted to the merchants of this country to the amount of several millions sterling for English goods which had been exported to America; that the colonists had hitherto faithfully made good their engagements, but that they now declared their inability to do so; that they would neither give orders for new goods nor pay for those which they had actually received; and that unless Parliament speedily retraced its steps, multitudes of English manufacturers would be reduced to bankruptcy. In Manchester, Nottingham, Leeds, and many other towns, thousands of artisans had been thrown out of employment. Glasgow complained that the stamp act was threatening it with absolute ruin, for its trade was principally with America, and not less than half a million [pounds sterling] of money was due by the colonists of Maryland and Virginia alone" to its merchants.⁶ On this point Adam Smith wrote, "the expectation of a rupture with the colonies struck the people of Great Britain with more terror than they ever felt for a Spanish

⁶ Lecky, *England*, III, 362, quoted in Howard, *Preliminaries of the Revolution*, 162-3. For other petitions of English merchants, see Callender, *Selections from Econ. Hist. of the U. S.*, 145-8.

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Armada or a French invasion," and "rendered the repeal of the Stamp Act, among the merchants at least, a popular measure." The pressure thus applied was successful and the Stamp Act was repealed in 1766.

But the British government, while yielding the stamp tax, insisted upon the principle and passed the Declaratory Act, asserting that Parliament had authority "to bind the colonies and people of America, subjects of the crown of Great Britain, in all cases whatsoever." A year later the Townshend Duty Act imposed import duties payable in the colonies on wine, oil, glass, paper, red and white lead, painters' colors, and tea. At the same time the customs administration was stiffened, writs of assistance were expressly authorized,⁷ and a new customs board was established in America to administer the acts of trade. It was expected that this tax would yield about £40,000 to be used for salaries for royal judges and governors in the colonies, so that they might be independent of the colonial assemblies. Although the duties imposed by this act were not high they rested upon articles of general consumption and raised the cost of living. The passage of this act was accompanied by another threatening gesture, for Parliament suspended the New York legislature on account of its refusal to comply with the Billeting Act, passed in order to cut down imperial expenses. Few among the colonists appreciated Great Britain's financial dilemma, but conceived of this legislation as a plan to curtail their liberties.

These measures aroused fierce resentment throughout all the colonies, and systematic and official resistance was directed against the unpopular acts. The first non-importation agreement had been so successful that in 1769 a second agreement was made by the merchants and people in nine of the colonies to "boycott" English goods. Their purpose was to exert a pressure upon English exporting merchants which

⁷ "The difficulty of enforcing was very great, for it was hard to seize the smuggled goods and harder still to convict the smuggler in the colonial courts. Search warrants were impracticable, because the legal manner of using them made the informer's name public, and the law was unable to protect him from the anger of a community fully in sympathy with the smugglers. The only feasible way to put down this unpatriotic trade was to resort to 'writs of assistance,' which would give the customs officers a right to search for smuggled goods in any house they pleased." C. H. Van Tyne, *The American Revolution, 1776-1783* (New York, 1905), 9.

would cause the merchants to petition for the repeal of the objectionable acts, and in this they were successful. Exports from Great Britain to New England and the middle colonies fell off almost two-thirds; those to the southern colonies, which were economically more dependent upon England, remained almost constant.

This is shown in the following table :⁸

<i>Exported from Great Britain to</i>	1768	1769
New England.....	£430,807	£223,696
New York.....	490,674	75,931
Pennsylvania.....	441,830	204,979
Northern Colonies.....	£1,363,311	£504,606
Maryland and Virginia.....	£669,422	£714,944
North and South Carolina.....	300,925	327,084
Georgia.....	56,562	58,341
Southern Colonies.....	£1,026,909	£1,100,369

Once more the demand for the repeal of legislation which was ruining British trade, inciting resistance in the colonies, and not producing the anticipated revenue, compelled the ministry to yield and Parliament to repeal the offending measure. But again the right to tax the colonies was declared not to have been surrendered and the tax of 3*d* a pound upon tea was retained as evidence of imperial authority. The repeal of the Townshend Acts was, however, accepted as a peace move and trade was at once resumed; by 1771 the imports had jumped to £4,200,000.

The long depression was ended and for the moment non-importation was forgotten in the new prosperity. The well-to-do merchants, moreover, were quite content to call a halt to the revolutionary movement carried on by the radicals, for as yet it was not apparent that the insubordination of the colonies would lead to independence. But the tax on tea remained to cause further trouble.

Other economic causes of the Revolution.—The causes of the Revolution were several, but the economic factors

⁸ H. Macpherson, *Annals of Commerce*, III, 571.

were fundamental and important. The surface causes were for the most part political grievances, and the agitation concerning political rights occupied the attention of contemporary and later writers more than the deeper and obscurer economic causes ; but a few of these latter may be mentioned in addition to those already described. As early as 1748 Peter Kalm, the Swedish scientist, had made the prophetic observation that, if the fear of French attack were removed, "the English colonies in North America, in the space of thirty or fifty years, would be able to form a state by themselves entirely independent of Old England." He then added, "The English government has therefore sufficient reason to consider the French in America as the best means of keeping the colonies in due submission." There is little doubt that the successful termination of the Seven Years' War liberated the energies of the colonists for further territorial and commercial expansion, and that they resented the various acts which prevented the development of free enterprise. The sending of troops to "protect and defend" them after the danger from foreign aggression was removed was interpreted as a threat to their own liberties.

Depression.—Another circumstance which rendered the colonists resentful of the changes in the British colonial policy was the economic depression which set in after the conclusion of the Seven Years' War. During this war both the commercial and farming classes had enjoyed unusual prosperity. The disbursements of specie by British quartermasters and the increased demand for supplies for the troops had tended to raise prices for colonial commodities. But even more important as a source of profits was the illicit trade with the enemy. During the war the colonial merchants, sometimes with French or Dutch passports or even under flags of truce granted by American governors—the governor of Pennsylvania sold them for as little as £20 apiece—supplied French forces in Canada with provisions and carried on a vigorous trade with the French West Indies. Considerable fortunes had been amassed by this unpatriotic but profitable commerce, and now this was to be entirely destroyed by the enforcement of the acts of trade. The new methods of enforcement moreover harassed the merchants by irritating

searches and seizures, rendering their profits uncertain and disturbing accustomed lines of trade.

Meanwhile the radical, poorer, and less educated groups—fishermen, farmers, mechanics, and others—were being organized by such restless leaders as Samuel Adams. It was these unemployed artisans and mechanics who formed themselves into societies known as “Sons of Liberty” and who constituted the radical elements which were responsible for the rioting and destruction of property.

Taxation.—Another feature which helps to explain the uncompromising resistance to the slight burden of taxation which the British government proposed to collect from the colonists was their comparative freedom from local taxation and their dislike of it. It is not necessary to underestimate the importance of the political principle involved; namely, that the colonists were entitled to the same rights as Englishmen at home and that they ought not to be taxed by a Parliament in which they were not represented. But the colonists objected not merely to taxation without representation; they were unwilling to pay taxes at all. Governmental functions were but slightly developed in the unorganized and dispersed communities of the New World, and most needs, which today are met by governmental action, were then cared for by the individual. As a result public expenditures were small and taxes were light, especially as many governmental services were paid for by fees. Any proposal to increase taxes met at once with opposition just because it was an unaccustomed burden. And when it was made in a period of deflation and business depression, and in a form which would accentuate both these conditions, it aroused unusual opposition. To the colonists the proposal for heavier taxation for purposes of defence seemed especially unwarranted after the French had been conquered.

Another minor cause of friction was the frequent quarrels over quitrents and land tenure. Settlers who came to the colonies with the expectation of receiving free or for a low price a tract of land in absolute ownership were irritated to find that they could obtain land only upon condition of paying an annual charge or quitrent or on some other semi-feudal basis. There was constant uncertainty too over land

titles, which were sometimes altered in favor of English proprietors. The new doctrine of "natural rights" found ready supporters in these dissatisfied groups.

Subordination of colonial interests.—Some writers⁹ have attempted to show that the English colonial policy did not affect the colonies adversely, for there was a fairly even balance of burdens and favors. As proof they adduce the remarkable increase in the population and wealth of the colonies during the century and a half before the Revolution, and the fact that after the Revolution trade was carried on by the new nation with England just as it had been under the acts of trade. But the Revolution cannot be explained by a calculus of benefits and losses. The effects are sometimes of less importance than the motives. Benjamin Franklin unerringly exposed the weakest feature of the colonial system when he pointed out the ease with which interested parties or private interests could obtain favorable legislation even if adverse to the colonies. Acts which might have been borne without a murmur, if clearly in the interest of the Empire, took on a very different aspect when they were seen to favor only a few individuals. There were enough such cases to discredit the whole system in the eyes of the colonists.

"They reflected," wrote Franklin,¹⁰ "how lightly the interest of all America had been estimated here [England], when the interests of a few of the inhabitants of Great Britain happened to have the smallest competition with it. That the whole American people was forbidden the advantage of a direct importation of wine, oil, and fruit from Portugal . . . merely that a few Portuguese merchants in London may gain a commission on those goods passing through their hands . . . that, on the slight complaint of a few Virginia merchants, nine colonies had been restrained from making paper money, become absolutely necessary to their internal commerce. . . But not only the interests of a particular body of merchants, but the interests of any small body of British tradesmen or artificers, has been found, they

⁹ e.g., Ashley and Beer.

¹⁰ "Causes of the American Discontent before 1768" in *Works* (Boston, 1840), 249-51.

say, to outweigh that of all the King's subjects in the colonies. . . It is of no importance to the common welfare of the empire whether a subject of the King's obtains his living by making hats on this or that side of the water. Yet the hatters of England have prevailed to obtain an act in their own favor, restraining that manufacture in America. . . In the same manner have a few nail-makers, and a still smaller body of steel-makers (perhaps there are not half a dozen of these in England) prevailed totally to forbid by an act of Parliament the erecting of slitting-mills, or steel furnaces in America."

Similarly, the acts levying duties on foreign sugar and molasses were passed at the instance of British West India sugar planters, seventy-four of whom were stated to be members of the Parliament which passed the measures. English fur traders and land speculators secured the prohibition of westward expansion. And finally the legislation with respect to the taxation of tea was enacted to assist the British East India Company which was at the time in sore financial straits, with much unsold tea, which they proposed to dump in the colonial market. Had this law been carried out, the East India Company would have been given a monopoly of the colonial market for tea to the disadvantage of the law-abiding tea merchant as well as the smugglers from Holland. But the menace did not stop there, for other monopolies might be given similar privileges and American enterprise be destroyed in the interest of British concerns. Evidently Parliament gave little thought to the welfare of the colonists, whose interests it continually subordinated to those of Englishmen at home.

Whether the Revolution might have been averted by a different policy on the part of the British government is a question which will probably never be answered definitely. At base it represented the refusal of a self-reliant and progressive people to permit their expanding energies to be restricted by any external authority.¹¹ The American colo-

¹¹ "The British rule which they threw off was not one of oppressors and tyrants which declaimers suppose, and the merit of the Americans was not that of oppressed men rising against tyrants, but rather of sensible young people getting rid of stupid and overweening guardians who misunderstood and misjudged them." Matthew Arnold, *Civilization in the United States*, p. 116.

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nists wished a measure of autonomy, which was probably inconsistent with any real imperial control, but they differed among themselves as to the degree of home rule which they should demand. ✓The solidier merchants wished freedom of trade, but the more radical minority soon gained control of the revolutionary movement and gave it a turn for political independence.

The control by the more conservative merchant-planter group was ended by the unfortunate effort on the part of the British government to help the British East India Company, which was on the verge of bankruptcy. In order to aid it in disposing of its huge stock of seventeen million pounds of tea, the Company was given a virtual monopoly of the sale of tea in America. It was permitted to ship tea directly to the colonies in its own vessels without paying the customary auction and English import duties. This arrangement destroyed the legitimate business of middlemen and importers, and it also struck a blow at the profitable illicit trade which had been carried on by smugglers.

In practice probably ninety per cent of all the tea consumed in the colonies, more than a million pounds a year, was brought directly from the Orient by colonial vessels or was obtained from Holland, in both cases without paying the British tax. ✓Now a colonial tax of 3d a pound was imposed, the laws against smuggling were enforced, and the imperial tax of 1s a pound was remitted on all tea reshipped from London to the colonies. The tea brought over by the East India Company could now compete with that brought in by the illicit trade of colonial vessels, which, moreover, were now for the first time compelled to pay a tax. This meant cheap tea in the colonies, but it also meant that smuggling would be less profitable. There was added therefore to the political dislike of taxation without representation, the commercial resistance of those whose profitable trade was interfered with. ✓It was John Hancock, the "prince of smugglers," who organized the Boston tea-party.¹² As a

¹² According to D. A. Wells, "The colonists were a nation of law breakers : nine-tenths of the colonial merchants were smugglers. One quarter of the whole number of the signers of the Declaration of Independence were bred to contraband trade. John Hancock was the prince of contraband traders, and with John Adams as his counsel, was on trial before the Admiralty Court in Boston at the exact hour of the

punishment for this act of defiance the port of Boston was declared closed, an act which threatened its prosperity if not its existence.

The Continental Association.—The answer of the English government to the outrage, as they regarded it, of the Boston Tea Party was the passage of the five "intolerable acts." By these the port of Boston was closed until the town should pay for the tea, the charter of Massachusetts was annulled, and its government brought more closely under royal control; another act quartered upon the people the soldiers who were sent to enforce the acts; and finally by the Quebec Act the boundaries of that province were extended to the Ohio River. By this Quebec Act the territorial integrity of Virginia, with her claim to western lands, was attacked, and this colony was at once driven into camp with Massachusetts. The bond needed to draw the colonies together was furnished now by their common sympathy and fear, and the flame of rebellion spread rapidly along the whole sea-coast. The other colonies immediately rallied to the support of the beleaguered city of Boston, and in various ways assisted her. On a call from Massachusetts, inspired by Samuel Adams, delegates from all the colonies except Georgia met in Philadelphia in September, 1774. This first Continental Congress, which was dominated by the revolutionary element, drew up a Declaration of American Rights, in which they recited their grievances, denied the right of Parliament to impose internal taxes, protested against the maintenance of a standing army in the colonies, and named other violations of their rights.

But even more important than this paper protest was the "continental association" which the radical group forced through and by which they agreed to cease intercourse with Great Britain until the "cruel and oppressive" acts of Parliament should be repealed. They unanimously resolved that after December 1st of that year "there should be no importation into British America from Great Britain or Ireland, or from any other place," of any goods, wares or merchandise exported from Great Britain or Ireland; no

shedding of blood at Lexington, to answer for half a million dollars' penalties alleged to have been by him incurred as a smuggler." (Lalor's *Cyclopedia of Pol. Sci.*, I, 75.)

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molasses, syrups, coffee, or pimentos from the British West Indies; and no East India tea from any part of the world. A further resolution was later passed "that from and after September 10, 1775, the exportation of all merchandise and every commodity whatsoever to Great Britain, Ireland, and the West Indies ought to cease, unless the grievances of America are redressed before that time"; exceptions were made only of tobacco and rice, to secure the adherence of Virginia and South Carolina. It was also agreed not to import any slaves after December 1, 1775. It was expected that the injury involved in the loss of the colonial market would force the English government to yield.

All the colonies except Georgia adopted these resolutions and the boycott was more vigorously enforced and more generally observed than had been the case in the two earlier non-importation associations of 1765 and 1769. Vigilance committees were appointed to enforce these agreements and reluctant merchants were brought into line by threats or the application of a coat of tar and feathers. Imports from Great Britain fell off from £2,590,437 in 1774 to £196,162 in 1775, and £55,415 in 1776, while exports, which rose from £1,373,846 in 1774 to £1,920,750 in 1775, dropped to £103,964 in 1776.

This decline in trade had an immediate effect in Great Britain and the West Indies. English merchants and manufacturers appealed to Parliament to grant the demands of the colonists, as did the planters in the West Indies, who were greatly alarmed at the loss of their accustomed supplies.¹⁸ But this time the King refused to yield and Parliament answered the resolutions of the Continental Congress by declaring Massachusetts to be in a state of siege, ordering additional troops to America, and later forbidding New England and subsequently the other colonies from trading with any part of the world except Great Britain and the British West Indies. Lord North indicated that since the colonists had refused to trade with Great Britain it was a proper punishment to forbid them to trade with other nations.

The New England colonists were also forbidden to fish

¹⁸ See petitions in G. S. Callender, *Selections from the Economic History of the United States, 1750-1865* (Boston, 1909), 155-9.

along the Grand Banks. But before this legislation went into effect the Revolution had begun. The non-importation association of the colonies remained in force, however, until April 6, 1776, having been modified the previous year to admit the importation of munitions of war; on this date the new Congress threw open the commerce of the colonies to all the world except Great Britain. At the same time they declared that the Navigation Acts and the acts of trade were nullified so far as related to the American colonies.

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Part II—The Westward Movement

1783-1860

CHAPTER IX

CONFEDERATION AND CONSTITUTION

BY THE acts described in the last chapter the colonists assumed control of their foreign relations as well as of their internal affairs, and brought to an end the policy of imperial control which Great Britain had been developing for a century and a half. After this the Declaration of Independence, on July 4, 1776, was only a formality; by this act the thirteen English colonies declared themselves the United States of America.

The Loyalists.—The Declaration of Independence was an astute political document, but it had important military and social consequences. It was an appeal to the outside world for assistance, which could be given to an independent nation though it might be refused to a group of rebellious subjects. The French alliance was thereby rendered easier. But it also served as a test of allegiance to the patriot cause. Now for the first time patriotism became synonymous with disloyalty to the mother country, and the man who remained loyal to the King was stigmatized as a traitor. It served to line up the hesitating on the patriot side, and provided a test by which the Tories were marked off from the Whigs or Patriots. The methods of appeal, of propaganda, and of pressure, familiar today because of their recent use in the World War, were applied even more ruthlessly during the Revolution.

The Loyalists probably constituted a minority of the colonists; John Adams thought about a third after the beginning of hostilities. They were made up of the English officials and their dependents, of many of the richer merchants in the North and the planters in the South, of the clergy of the Church of England, and some of the pro-

fessional classes—on the whole the best educated and the wealthiest inhabitants of the colonies. On the other hand, the strength of the Revolution came from the mass of the people, farmers, artisans, mechanics, merchants whose trade was interfered with, and a small group who looked ahead to independence. The general sentiment for independence was, however, a matter of gradual growth. The English historian, Lecky, concludes that "the American Revolution, like most others, was the work of an energetic minority who succeeded in committing an undecided and fluctuating majority to courses for which they had little love, and leading them step by step to a position from which it was impossible to recede."

In such circumstances the Patriots thought it necessary to use pressure at home to force the Loyalists into their camp. Mobs at first applied crude methods of physical force, tarring and feathering objectionable Tories, wrecking their homes, and in other ways cruelly mistreating them. Later the constituted authorities dealt with them, depriving them of citizenship, confiscating their estates, and banishing them from the country. Many fled to Canada and others returned to England with the British troops.

Conquest of the Ohio Valley.—While the struggle for independence was taking place on the Atlantic coast, another phase of the Revolution was occurring on the frontier. This was the winning of the territory in the Ohio Valley from the British and the resident Indian tribes. By the Royal Proclamation of 1763, it will be recalled, the King had forbidden settlement west of the Appalachian Mountains, but before the ink was dry on this document settlers had begun the western advance. James Robertson and John Sevier planted a settlement in the Watauga Valley in 1769, and in the same year Daniel Boone made his way through Cumberland Gap to central Kentucky whither he led a group of settlers four years later. In 1775 the settlement of Transylvania was established, also in what is now Kentucky. No action had been taken against these unauthorized squatters on the King's domain, but when the Revolution began a systematic effort was made to force back the settlers, who were now also rebels, to the seaboard. The British incited the Indians



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to take the warpath, and no part of the frontier was exempt from their attacks.

In this crisis George Rogers Clark, barely twenty-six years of age, but a born leader and an adroit Indian fighter, determined to carry the war into the enemy's country. Having secured a commission and funds from Patrick Henry, the governor of Virginia, he gathered a force of some one hundred and fifty volunteers, and in 1778 floated down the Ohio and captured without a struggle the old French posts, now held by the British, at Cahokia and Kaskaskia on the Mississippi and at Vincennes on the Wabash, though he was forced to give up the latter. The Indian chiefs, impressed by Clark's daring, were persuaded to make peace; and the following year, after a terrible winter's march of 230 miles across the "drowned lands," Clark surprised and captured the British general Lieutenant-Governor Hamilton, at Vincennes. This exploit secured for Congress control of the whole Ohio Valley, so that when peace was made with Great Britain five years later, the treaty ratified this conquest by ceding to the United States all the British territory between the Great Lakes and Florida. The redistribution of territory that resulted from the war is shown in the accompanying map.

Agrarian reforms.—In its external aspects the Revolution was directed against Great Britain, but at the same time there occurred an internal movement in America against the feudal land system and privilege in other forms. "In nearly every colony prior to the Revolution," wrote Professor Turner, "struggles had been in progress between the party of privilege, chiefly the Eastern men of property allied with the English authorities, and the democratic classes, strongest in the West and the cities."¹ The removal of the large land-holding Loyalists provided an opportunity to break up the great feudal estates which had been established in some of the colonies, and before the war had proceeded far this was taken advantage of by the state legislatures.² New Hampshire confiscated twenty-eight estates,

¹ F. J. Turner, *The Frontiers in American History* (New York, 1921), 110.

² For details see Van Tyne, *The American Revolution*, 248, and Jameson, *The American Revolution Considered as a Social Movement*, 51.

including the large one of Governor Wentworth. Massachusetts took the property of all who fought against the United States, among which was that of Sir William Pepperell, which stretched for thirty miles along the coast of Maine. In New York the estates of fifty-nine persons were confiscated, including the vast Philipse manor of 300 square miles, the 50,000-acre manor of Sir John Johnson, the Morris estate, and other large holdings. In Pennsylvania the largest estate confiscated was that of the Penn family, valued at nearly a million pounds. Maryland took in almost half a million pounds from the sale of confiscated land. In Virginia the great estate of Lord Fairfax and in Georgia that of Sir James Wright were among those seized. The land thus taken was usually sold in smaller parcels, in New York not over 500 acres.

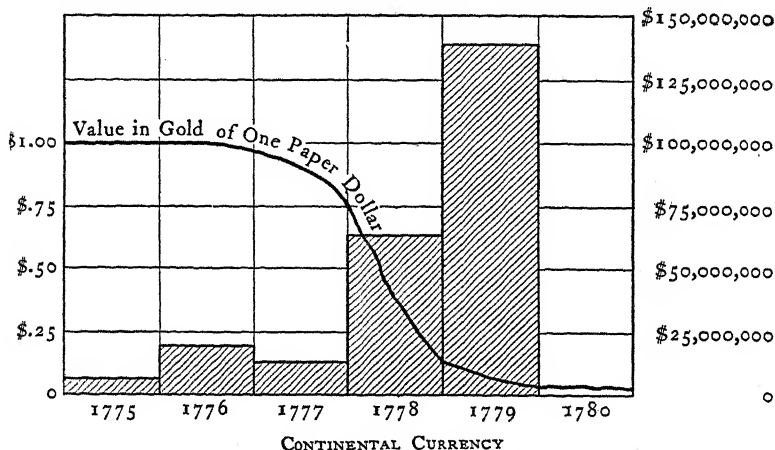
The movement toward the abolition of feudal privilege and more democratic land-holding also found expression in the abolition of quitrents. Although these were small in amount and frequently evaded, the total annual payments just before the Revolution were nearly \$100,000. These were now completely swept away, and their abolition removed a slight obstacle to the easy ownership of land. So too there disappeared the right of the King's surveyor to mark white pine trees with a broad arrow for use by the navy. Two of the props of great estates had been primogeniture and entail, but within a decade after the outbreak of the Revolution entail had been practically abolished and in another five years primogeniture had disappeared; inheritance was thus made more democratic. Those transplanted feudal institutions had never taken root in the free soil of America, and when the foreign support was removed they were easily swept away. Another change in this minor social revolution was the removal or reduction of property requirements as a condition of voting. All in all the tendency was clearly in the direction of democracy in the ownership and use of the land.

Financing the Revolution.—The immediate task before the colonists was, however, not social reform nor territorial expansion, but the winning of the war. The written instrument of government known as the "Articles of Confedera-

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tion" was submitted to Congress on July 12, 1776, but was not ratified by all the states until 1781. In the interval Congress exercised informal and unsanctioned powers. As a matter of fact even after ratification, it possessed little power of its own and could only appeal to the states. Two things, however, it did on its own initiative: it authorized the organization of a Continental army, which was supplemented by the militia of the individual states; and it financed the war.

ANNUAL EMISSIONS AND RATE OF DEPRECIATION



When war broke out, the colonies had neither arms nor ammunition, nor money wherewith to purchase them or to pay the soldiers. The first task which presented itself therefore was to provide the necessary financial resources; and this had to be done with discretion. In general there are only three methods open to a nation in time of war for raising revenue—these are the issue of treasury notes, taxation, or borrowing. The Continental Congress resorted to all three of these policies, but the first was their chief reliance and the one first used.

It must be remembered that the Continental Congress was only an emergency body, with little authority and no compelling power for the collection of taxes, and therefore had to resort to any device that seemed capable at the time of yielding revenue. Almost with the beginning of hostilities, in June, 1775, Congress authorized the first issue of paper

money to the amount of \$2,000,000. By November 29, 1779, Congress had authorized forty-two emissions to a total amount of \$241,552,780. At this point Congress became alarmed at its own actions and limited the amount in circulation to \$200,000,000.

Since the paper money issued was greatly in excess of the needs of the people for a medium of exchange, and the states failed to support their credit, the bills began early and rapidly to depreciate, and prices of all commodities and services to rise correspondingly. Efforts were made to stem the depreciation by legal tender laws, by price conventions to fix prices of goods in terms of the paper money, and by mob violence, but in spite of all these methods the value of the paper currency continued to fall. When Congress limited their amount a paper dollar was worth but two or three cents in specie. The following year Congress provided for their redemption at the rate of 40 to 1 in treasury bills of a new tenor. These new tenor bills in turn depreciated to about 5 to 1 in specie, so that the old tenor bills were now worth 200 to 1. "A wagon-load of money," it was said, "would scarcely purchase a wagon-load of provisions." About \$119,400,000 were paid in by the states under this law and redeemed. Of the remainder, \$6,000,000 was subscribed for bonds under the Funding Act of 1790 at the rate of 100 to 1 for the old tenor; the balance was probably lost or destroyed. "Not worth a continental" is today a synonym for utter worthlessness. To complicate matters still more the individual states put out their own paper issues to a total of about \$360,000,000,³ of which Virginia and the Carolinas together issued over three-quarters. These state issues competed with the Continental paper money, and hastened the depreciation of both.

• **Taxation.**—Congress had no power to impose taxes or to compel the states to contribute to the general expenses by taxes levied by themselves; it could only ask for money, but its requests were scantily honored. Even had the states been willing to resort to taxation it would have been impos-

³ R. V. Harlow, "Aspects of Revolutionary Finance," in *The American Historical Review*, XXXV, 50 (Oct., 1929). This writer places the actual emissions of paper money by the Continental Congress at \$191,552,389.

sible to raise the large sums necessary for war expenditure in this way. But they were not willing, since the very war itself was directed against taxation, and no state was willing to tax itself for expenditures which might be made for the advantage of another state. Congress did succeed in raising some small amounts by requisitions or assessments upon the states to be paid in specie or supplies. In this way flour, beef, pork, corn, hay, and rum were obtained, but the lack of transportation facilities or of adequate accounting methods made the system wasteful and ineffective. For such supplies as were obtained interest-bearing certificates of indebtedness were given.

Loans.—More important were the loans which Congress was able to make, both at home and abroad. Domestic loans were placed through loan-offices established in each state; the lenders received indented certificates corresponding to modern coupon bonds. With great difficulty some \$11,585,000 (specie value) was obtained, owing largely to the exertions of Robert Morris, the so-called "Financier of the Revolution." Immediately after the Declaration of Independence commissioners were sent by Congress to France, Spain, and Holland to make commercial treaties and obtain financial assistance. Two treaties were effected with France in 1778, one of friendship and commerce and the other of defensive alliance. But before this the commissioners had been able to obtain small subsidies from France and Spain in 1776; and beginning with the following year fairly regular and increasing sums were obtained from France. In 1782, after victory was assured, the new nation was able to obtain loans from Holland. It may fairly be said that without the invaluable aid of France, by her loans as well as by her army and navy, the Revolution could not have been won.

Financial management of the Revolution.—Criticism of the financial program of the Continental Congress in financing the Revolution must be tempered by an appreciation of the circumstances under which it was carried out. Borrowing at the beginning of the contest was out of the question: domestic loans presuppose accumulations of free capital which at that time did not exist in America, while foreign loans were impossible for the rebellious subjects of the most

powerful European nation. The first advances from France and Spain were dictated by a desire to be revenged on an ancient enemy rather than by their attractiveness as investments.

The power of taxation was never granted to Congress and it could only recommend to the individual states that they impose taxes on their citizens. But since the Revolution was directed against unjust taxation it was accepted as a reasonable view that taxation should not be resorted to carry on the struggle. It was argued also that a large part of the movable wealth was in the hands of Loyalists who fled from the country and that the small farmers and artisans had little specie with which to pay taxes. Moreover, another factor leading to the Revolution had been the prohibition of paper money, and the resort to this now was an exhibition of independence. In spite of the unfortunate experiences with colonial issues, they were approved by the people and, in selecting this method of financing the war, Congress followed popular opinion. Revolutionary finances were not different in kind from those of the whole colonial era.

The direct money cost of the Revolution, in specie, was estimated by Pitkin⁴ at \$135,000,000. Of this sum the Federal debt, as funded by Hamilton in 1789, represented \$42,413,000, and the state debts which were assumed by the central government made up \$18,271,786, or together about one-half. The balance was met by taxation, repudiated paper money, and in other ways. Half of the cost was thus defrayed at the time and the other half remained as a national debt.

Industrial and commercial conditions during the Revolution.—While the national treasury was practically bankrupt and Washington's army was suffering from lack of adequate food and clothing, the country as a whole was fairly prosperous. In so far as agriculture was self-sufficing it was little affected by the war, which did not disturb the ordinary farm routine outside of the areas of military operations. There were no campaigns of consequence in the South until 1780, and in the middle states the British armies were inactive much of the time, and even helped the farmers by

⁴ *Statistical View*, pp. 25-27.

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providing a market at good prices for agricultural products. Wool was in especial demand for uniforms and clothing, and after the English supply was cut off the growing of sheep was stimulated. In the South the cessation of bounties for indigo and naval stores caused the decline of these artificial industries, but this was more than compensated by the enlarged markets and higher prices for tobacco and rice. After the first disorganization of commerce, blockade runners carried a steady stream of tobacco to northern Europe, and of rice to the Mediterranean countries; the latter industry was assisted by the invention in 1778 of a water mill for cleaning rice.

Manufactures felt the effect of the war more directly than did agriculture. The non-importation association cut off supplies of English manufactures even before the Revolution dried up the importations, and threw the Americans on their own resources. Spinning wheels, looms, and knitting needles were kept busy supplying the need for clothing, and quantities of woollen and linen cloth were produced in the North and of cotton in the South. A special stimulus was given to the iron industry by the unwonted demand for munitions and other war supplies. Guns, cannon, camp kettles, anchors, nails and similar articles began to be manufactured in Massachusetts, New York, New Jersey, and Pennsylvania. Slitting mills, steel furnaces, and foundries could now be built without restriction, and they were erected wherever raw materials and fuel were to be found. Of some commodities there was a distinct shortage which could not be made good by domestic industry. Such an article was salt, the supply of which from Portugal and the West Indies was cut off by the war, and which became very scarce before peace was declared.

✓ Although agriculture and manufactures prospered, another important industry—the fisheries—was almost destroyed. ✓ Along the coast of New England and off the Grand Banks the American fishing vessels were sunk by British naval ships and their operations prevented. The cessation of this industry crippled in turn the profitable trade with the West Indies and cut off the supplies of sugar and molasses. Rum began to decline as a beverage and in its place whisky was made

from corn, rye, and other grains. ✓The substitution of whisky for rum may be said to constitute one of the minor revolutions effected by the war.

✓Commerce and shipping were variously affected. The sale of ships to British traders of course came to an end. The number of American ships was greatly reduced by capture and sinking by British naval vessels and privateers. On the other hand, these losses were made good, in part at least, by the capture of English vessels by American privateers, of which it has been estimated that two thousand were commissioned in the course of the war. Many of the New England merchantmen and fishing vessels, deprived of their usual pursuits, were armed by their owners and employed in this dangerous but lucrative business. ✓They operated from the smaller ports, since the larger ones were either occupied by the British fleet or watched more carefully. Commerce was carried on with France, Spain, Holland, and even with the British West Indies, by American and European vessels which eluded the British blockade. Tobacco, rice, flour, and meat were shipped in quantity to the ports of Europe and the West Indies. The Dutch island of St. Eustatius, the French island of Martinique, and the Danish islands of St. Croix and St. Thomas were favorite places where American products were exchanged for European goods and neutralized in the process. Even the sugar planters of the British West Indies did not scruple to buy American meat and flour, while American tobacco continued to be imported into Great Britain itself, though through a neutral port. All these products brought good prices, and the proceeds were laid out in European manufactures and luxuries or taken in specie. Such things as velvets and silks, spices and wine were brought into the country, and their consumption led Franklin to exclaim in 1779, "✓The extravagant luxury of our country in the midst of all its distress is to me amazing."

Struggle with the mercantile system of Europe.—In 1776, as stated above, the American ports were thrown open as far as possible to European trade, though British warships and privateers rendered such trade extremely hazardous, except to the districts controlled by the British army into

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which British goods were imported in considerable quantities. During this period there were no duties nor restrictions upon foreign commerce with other nations in any of the American States, except Virginia; it was a period of perfect free trade on the American side. So it was not unnatural for the colonies, in their precarious situation, to invoke principles of generous treatment by other nations.

American demands were for freedom of trade, arbitration rather than war, and respect for the interests of the weak by the strong even in time of war. The Revolution was primarily a struggle for freedom of commerce, and consequently there was no desire to limit foreign intercourse; indeed, in independence the Americans beheld the key to commercial expansion. For instance, the French treaty of 1778 promised to provide for our commercial relations on the "most perfect equality and reciprocity." After the war, accordingly, an effort was made to realize reciprocal free trade with all nations.

The American people expected great benefits from the freedom from the restrictions which had been imposed by the English colonial policy. "In future," wrote John Jay, "the whole world will be open to us, and we shall be at liberty to purchase from those who will sell on the best terms and to sell to those who will give us the best prices." It was believed that our trade was so important to the nations of Europe that they would consent to abolish their restrictions upon foreign trade in our favor rather than lose it. Nor was the desire for universal free trade based merely upon sentiment; it would have been commercially most profitable. Up to this time the nation had been primarily agricultural and commercial, and there was little thought that the United States would ever become a manufacturing nation, or attain economic self-sufficiency. Consequently, freedom of trade with other nations was eagerly sought for until about 1784. Indeed, Stanwood, an ardent protectionist, writes that, had the Constitution been drawn up in 1782, "it is not unlikely that it would have contained a prohibition of all laws in restraint of trade, foreign or domestic."

Efforts to make commercial treaties.—As soon as peace was declared, American commissioners, John Adams, Ben-

jamin Franklin, and Thomas Jefferson, were sent abroad to effect commercial treaties along these lines,⁵ but their efforts met only with failure. European statesmen still clung to the mercantilistic ideas of commerce, and regarded the idea of freedom of trade as quixotic and impracticable. They wished to sell to us, but were not equally ready to buy from us or let us carry their produce. An effort had been made by Jay to obtain some reciprocal commercial provision in the treaty of peace with Great Britain in 1783, but unsuccessfully.

Two schools of thought developed in Great Britain as to the policy to be followed in dealing with the former colonies. One was led by William Pitt, who proposed the re-establishment of commercial intercourse on a basis of entire equality. The opposition, consisting of ship-owners, Loyalists who had settled in Canada, and other interested groups, was led by Lord Sheffield, whose "Observations on the Commerce of the United States" exercised a profound influence. Published in 1783, it reached its sixth edition in 1784, and shaped the policy of the government. Sheffield upheld the mercantilistic theory of commercial monopoly and insisted upon the inexpediency and needlessness of a commercial treaty. The following extract gives his argument on this point:⁶

"It will not be an easy matter to bring the American States to act as a nation; they are not to be feared as such by us. It must be a long time before they can engage, or will concur, in any material expence. A Stamp act, or Tea act, or such act, that can never again occur, and could alone unite them; their climate, their staples, their manners, are different; their interests opposite; and that which is beneficial to one, is destructive to the other. We might as reasonably dread the effects of combinations among the Germans as among the American States, and deprecate (*sic*) the resolves of the Diet, as those of Congress. In short, every circumstance proves, that it will be extreme folly to enter into any engagements, *by which we may not wish to be bound here-*

⁵ The instructions to the commissioners are conveniently found in Callender, *Selections*, 200-201.

⁶ *Observations* (2d ed., London, 1784), 198. Italics in original.

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after. It is impossible to name any material advantage the American States will, or can give us in return, more than what we of course shall have. No treaty can be made with the American States that can be binding on the whole of them. The act of Confederation does not enable Congress to form more than general treaties: at the moment of the highest authority of Congress, the power in question was withheld by the several States. No treaty that could be made, would suit the different interests. *When treaties are necessary, they must be made with the States separately. Each State has reserved every power relative to imports, exports, prohibitions, duties, etc., to itself. But no treaty at present is necessary."*

Trade with Great Britain.—These arguments were successful and Great Britain refused to make a commercial treaty with the Congress of the Confederation or to allow us special privileges of trade. ✓They felt so sure of our trade that they assumed no concessions would be necessary to hold it after peace was declared. John Adams reported the English attitude in a letter to Jay in 1783.⁷

"Now, the boast is, that our commerce has returned to its old channels, and that it can follow in no other; now, the utmost contempt of our commerce is freely expressed in pamphlets, gazettes, coffee-houses, and in common street talk. I wish I could not add to this the discourses of cabinet counsellors and ministers of state, as well as members of both houses of parliament. The national judgment and popular voice is so decided in favor of the navigation acts, that neither administration nor opposition dare avow a thought of relaxing them farther than has been already done. This decided cast has been given to the public opinion and the national councils by two facts, or rather presumptions. The first is, that in all events this country is sure of the American commerce. Even in case of war, they think that British manufactures will find their way to the United States through France, Holland, the Austrian low countries, Spain, Portugal, Sweden, the French and Dutch West Indies, and even through Canada and Nova Scotia. The second is, that the American States are not, and cannot be united."

⁷ *Works*, VIII, 282.

At home Washington cried in despair: "We are one nation today, thirteen tomorrow; who will treat with us on these terms?"

But in spite of this treatment American trade speedily returned to the old channels as soon as peace was declared. Great Britain was, after all, the best place in which to buy manufactured goods and in which to sell American products. For this there were sound economic reasons. English merchants could best furnish the goods to which American purchasers were accustomed and which they wanted, and could furnish articles which were both superior and cheaper. They were almost the only ones able to furnish credit, and they gave longer credit than did those of other nations. An American vessel found a better market for its cargo in England than in other ports, with the exception of certain articles. And finally, England offered the best opportunity to get an assorted general cargo for the return journey.

This Anglo-American commerce was based upon a century and a half of intercourse and could not be destroyed by mercantilistic harshness; ties of culture and habit were not easily broken. To the United States the trade was vital. In 1790 half of the American exports went to British ports and three quarters of the imports were from Great Britain. But for England too the American trade was valuable, for more British exports went to the United States than to any European customer or to the British West Indies; and this was especially true of manufactures. On the other hand, Great Britain was not so dependent upon this country for its imports. For both countries we may conclude, then, that their commerce was mutually beneficial and was indispensable to the prosperity of each.

France was somewhat more liberal to us in some respects than was Great Britain, but less so in others. Like the latter country, however, she refused to open her trade to us on terms of perfect freedom of trade, although she made a commercial treaty. The only countries with which Congress was able to make treaties guaranteeing reciprocal commercial privileges were Prussia and Sweden; Holland made a commercial treaty, but not on this basis; but Spain and Portugal refused to accede to our overtures. In England, Pitt made

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a noble effort to obtain freedom of trade between the United States and the British colonies, but Parliament rejected this and proceeded to amend her navigation laws by admitting only British built and manned ships to the West Indies and subjecting American vessels in other British ports to heavy tonnage dues; by this legislation our ships were excluded from the British West India trade. The exclusion was made airtight by other acts in 1786 and 1787 aimed against the fraudulent registration of American vessels and prohibiting the importation of American goods by way of foreign islands.

West India trade.—Imports into the British West Indies of tobacco, provisions, and naval stores from the United States was permitted in 1788 if carried exclusively in British ships, but salted beef and pork and dried fish were absolutely excluded. In like manner the trade with Canada was limited to British ships. In addition, France and Spain in 1783 closed their West India trade to American ships, and France forbade the importation of flour and all kinds of grain except Indian corn, although she admitted beef and dried fish. Thus was the pledge of "perfect equality and reciprocity" applied in practice. France and Spain had been willing enough to assist the rebellious colonies against their ancient enemy, Great Britain, but they were not eager to encourage the growth of a new commercial rival to themselves. The unimportant Danish and Dutch islands were now the only places in the West Indies where the ships and products of the United States were freely received.

The loss of the West India trade was a particularly heavy blow to the United States, for even from early colonial times it had been a most valuable branch of our commerce. More than one-third of the vessels clearing from Boston and New York in the decade before the Revolution had sailed to those ports. Fish, meat, flour, and lumber had been exported from the New England and middle colonies to the West Indies, with the proceeds from which goods had been purchased from England. Since these colonies had little to export directly to England, they could not have paid for their imports from that country without this trade. The economic prosperity of the United States therefore still de-

pended in large part upon the triangular and other indirect trades into which the West Indies had been woven. But hurtful as the cessation of this trade may have been to the United States, to the West Indies themselves it was nothing short of disastrous. For over a century the sugar plantations had depended upon American supplies of fish, breadstuffs, meat, and other products, and now these were suddenly cut off, a loss which Canada could not supply. As a result of this and other factors Bryan Edwards,⁸ the historian of the West Indies, estimated that between 1780 and 1787 over 15,000 slaves died of famine or of diseases produced by scanty and unwholesome diet.

The exclusion of our ships and products from the British West Indies would have been much more hurtful if the laws had not been so generally evaded. The trade with the Dutch and Danish islands, which remained open as in the past, increased enormously, and quantities of American foods found their way thence into the British islands. Many American vessels, with forged British registrations, carried American products directly into British West India ports. The slave trade was, however, lost and the clandestine commerce could not compensate for that which the colonies had enjoyed before independence.

In the direct trade with Great Britain and Europe the new nation also found itself at a disadvantage. So long as the colonies were a part of the British Empire they had enjoyed certain privileges in the way of free access to British ports, protection by the British navy, and in other ways. Now the States found the former mother country transformed into a powerful commercial rival who applied to them the old Navigation Acts in all their rigor. British shippers were forbidden to purchase vessels built in America, so this profitable export was cut off. Furthermore, Great Britain treated the states as thirteen sovereign entities, and even in direct trade permitted American ships to carry goods produced only in the particular states of which their owners were citizens.⁹ Since only one-fourth of southern shipping was owned by residents of that section, this was almost equivalent to for-

⁸ *The History . . . of the West Indies* (4th ed., London, 1807), II, 515.

⁹ Marvin, *The American Merchant Marine*, p. 31.

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bidding southern exports to Great Britain except in British vessels.

Mediterranean trade.—One other branch of the colonial trade still remained open to American shippers, and that was the trade with the Mediterranean countries of Europe. This had been very profitable during the colonial period. But when our vessels attempted to regain these markets after the Revolution, they were captured by the pirates of the Barbary States in northern Africa. The protection of the powerful British navy was now lacking, and the Congress of the Confederation was too weak to resist the pirates. The cold-blooded attitude of the more powerful nations of Europe, which viewed with satisfaction this interference with the trade of their weaker rivals, was well voiced by Lord John Sheffield, a strong defender of Great Britain's mercantile policy: "It is not probable the American States will have a very free trade in the Mediterranean. . . That the Barbary States are advantageous to the maritime powers is certain. . . The Americans cannot protect themselves." Even after the Constitution was adopted immunity from attack was obtained only by paying tribute, until we made successful war upon them in 1802.

Economic depression.—The first thought, with the declaration of peace, had been that great prosperity would now ensue, and a short period of speculation and commercial activity did actually occur. The American people were eager for English goods, of which they had been largely deprived during the war, while British manufacturers and merchants were equally eager to regain the markets which had been closed for so long. Since easy credit was generally given, American merchants overbought in the hope of disposing of their purchases at a good advance. During the year 1784 imports from Great Britain amounted to £3,679,467 and for 1785 to £2,308,023. That these were speculative purchases, far beyond the immediate needs of the people or their ability to pay for is evidenced by the exports to Great Britain, which were £749,345 and £893,594 respectively for the same two years.

The buyers had expected to pay for these imports with domestic exports or with the profits of the West Indian

and Mediterranean trade, as they had done in colonial days ; but now these avenues were closed to them. ✓ Moreover, the economic situation in the United States was unfavorable to the production of large supplies of exportable commodities. The five articles of largest exportation in 1770 were the following (the figure in parentheses is their value in thousands of pounds sterling) : tobacco (906), bread and flour (504), dried fish (375), rice (340), and indigo (131). But the production of only the first two was anywhere near normal in 1785. ✓ The fishing industry had been almost destroyed by the war and could not suddenly be restored. The production of rice had suffered severely from military operations in Georgia and South Carolina during the last three years of the war, and from the withdrawal by the Tories and confiscation by British troops of several thousand slaves ; until these were replaced rice culture could not regain its former importance. Indigo production was given a death blow by the withdrawal of British bounties. It was consequently not possible to sell the imported wares, or, if sold on credit, to collect the sums due from the purchasers. American merchants incurred enormous debts to foreign exporters which they found themselves unable to pay ; and domestic buyers were in a similar situation. The result was a severe crisis, which affected almost every department of economic activity, and from which followed several important consequences.

✓ **Lack of money.**—The first result was that the means of payment with which the merchants had settled for British goods or West India sugar and similar commodities during the colonial period were now lacking. Then the colonists had used the specie and bills of exchange which they obtained from the West Indies or southern Europe for products sold there to pay for the English manufactures, or they had exchanged goods against goods. Now that they could not avail themselves of either of these methods on any considerable scale they had to export their specie. It has been estimated that in the three years following the treaty of peace at least £1,260,000 in coin went to England.¹⁰ But even this

¹⁰ A. C. McLaughlin, *The Confederation and the Constitution* (New York, 1905), 77.

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was insufficient to pay for all their purchases, and they remained heavily in debt to foreign merchants. In this emergency the state legislatures did two things.

In the first place, they passed stay laws or moratoria, suspending the right of creditors to collect debts for a certain period; and in the second place, seven of the states issued paper money to take the place of the vanishing specie. Only New Hampshire, Massachusetts, Connecticut, Delaware, Maryland, and Virginia, in which the wealthy merchants or the planters controlled the legislative bodies, were able to resist the demands of the farmers and debtor classes for cheap money. No wonder the debtors sought an easy avenue of escape from their burdens, for imprisonment for debt was common; the prisons were filthy and insanitary; and the processes of the courts were expensive. In Massachusetts, where the merchants had sued for the debts owed them and the courts had ordered the sale of the debtors' property, a serious insurrection, headed by Daniel Shays, occurred over the issue; and in other states there were bitter contests between the inflationists and the business interests.

A famous legal case was *Trevett v. Weeden*—when John Weeden, a butcher, refused to take Rhode Island paper money from Trevett in payment of meat, he was arrested, but the state supreme court declared that the law making this money legal tender was unconstitutional. This struggle over paper money, which was brought to the front by the crisis of 1785 and 1786, was really only one phase of a social and economic struggle between aristocratic and democratic classes, which began in the colonial period and has not yet ended. It was a populist uprising with issues and adherents similar to those of the movement by that name one hundred years later.

Ruin of manufactures.—A second result was the ruin of many of the struggling manufactures which had sprung up during the Revolution. ✓The cheaper English manufactures, imported in large quantities and sold at auction at low prices or on long credit, brought the domestic concerns to bankruptcy; the workmen were thrown out of employment and the owners suffered serious loss. Some of these enterprises were of artificial growth and had been called into ex-

istence by the exigencies of the war; labor and capital had been diverted into them from agriculture or commerce, and now returned to those channels. Although there were no great factories then to close down, the distress was sufficiently serious to call forth protective tariff acts in New England and Pennsylvania.

Migration to the West.—A third effect of the hard times was a great increase in emigration to the West. Beginning with about 1783 a steadily growing stream of soldiers with military scrip, debt-burdened farmers and artisans from the Atlantic seaboard, and adventurous pioneers combined to fill the western country with one of the most composite populations to be found in the United States; by 1790 there were about 200,000 people in the territory west of the Alleghenies.

But even in the West the people were having trouble. As the settlements grew they began to produce surpluses of grain, tobacco, livestock, and other products beyond their needs. The only way to market these was to send them down the Mississippi River in flatboats to the Spanish port of New Orleans, where they had the privilege of deposit. But in 1783 this essential trade was closed to them by Spain. The Spaniards held the land west of the Mississippi, and viewed with alarm the American advance beyond the Alleghenies; they had unsuccessfully maneuvered to prevent the cession of the trans-Appalachian territory by Great Britain, and now intrigued to alienate some of the new settlements from allegiance to the United States in the hope of creating buffer states. Disappointed in these attempts Spain withdrew the free navigation of the Mississippi.

When the western settlers asked Congress to compel Spain to open the river to their trade, they received little satisfaction. Indeed the merchants and shipowners of the eastern states were willing to let Spain close the Mississippi if she would open the West Indies. The western farmers were greatly incensed when they heard of this and talked of withdrawal from the Confederation. It was at this time that Washington wrote: "The Western states hang upon a pivot; the touch of a feather would turn them either way." With prophetic vision he saw that their economic

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interests must run parallel with their political allegiance, and even thus early advocated improved means of communication between the western settlements and the Atlantic seaboard.

Political discontent.—A final result of the period of depression was to cause profound dissatisfaction with the Confederation. People have generally been prone to attribute economic adversity or prosperity to the government then in control of political affairs, and at this time there was a disposition to hold the form of government responsible for the economic difficulties under which the people were suffering. While it is true that this was weak and faulty, it is unlikely that any government, however powerful, could have saved the people from the consequences of their speculations. But the Congress of the Confederation could not even assist them. When the European states denied us freedom of trade, it could not engage in reprisals, as it did not have the power to regulate commerce nor to levy import duties; it could pass laws, but it must leave their enforcement to the states. Until 1789 therefore the separate states undertook to regulate foreign commerce.

State tariffs.—During the years 1780 to 1789, Pennsylvania enacted fifteen tariff acts; Virginia, twelve; Massachusetts, New York and Maryland, each seven; Connecticut, six; and the other states a smaller number. While those of the southern states were chiefly for the purpose of revenue, the tariffs of the middle and New England states were dictated by motives of protection and retaliation. Discriminating tonnage dues and import duties were imposed by most of the states upon British imports, especially by the northern states which were angered by the loss of the West Indian trade, but the states could not agree among themselves and the duties varied all the way from five per cent to one hundred per cent, while some of the states admitted such goods free of duty.

British manufactures therefore entered the country through the free or cheapest ports. To make matters worse, the states finally began to make commercial war upon one another, and to enact tariff laws which excluded one another's products. When New York placed high

duties on British imports Connecticut and New Jersey thought to attract this trade by lowering theirs, and New York then retaliated against them by taxing their products when brought to New York City. To this New Jersey responded by a tax of £30 a month on the lighthouse which New York had erected at Sandy Hook, and the men of Connecticut agreed not to ship their products to the city. Boundary disputes added another cause of friction. The conflicting interests and jealousies of the states threatened to cause the complete disintegration of the Confederation.

The Constitution.—It had now become evident that commercial relations with other nations could not be placed on a satisfactory basis by Congress so long as each state controlled its own action with regard to foreign trade. Unified action could never be obtained until Congress should be made supreme in foreign relations. Proposals to enlarge the powers of Congress, however, met with the obstinate objection of one or another of the states. But the mutual jealousies of the states were daily making some plan of central control more necessary for domestic purposes. American industries had been developing and a growing desire for protection of manufactures began slowly to replace the idea of retaliation. The growth of new industries, it was thought, would lessen our industrial dependence upon England, which meanwhile showed no signs of removing her commercial restrictions. But the commercial chaos was so bad that it brought its own cure.

In 1785 commissioners of Virginia and Maryland met to adjust differences over the navigation of the Potomac River and Chesapeake Bay. Since the questions affected other states as well, however, Virginia invited all the states to send delegates to a commercial convention in Annapolis the following year "to consider how far an uniform system in their commercial relations may be necessary to their common interest." As some of the states were not represented at this meeting by delegates, another meeting was recommended to be held at Philadelphia in 1787. This was approved by Congress, and the constitutional convention, composed of delegates from all the states save Rhode Island met in May of that year for its important work; by Sep-

Philadelphia

tember it had framed the Constitution to take the place of the discredited Articles of Confederation.

Economic forces behind the Constitution.—The movement for the Constitution was not unnaturally supported by those men of property and position who found their wealth threatened and their economic opportunities lessened under the Articles of Confederation. Holders of depreciated public securities, speculators in western lands, merchants and shipbuilders whose trade was adversely affected by the unfriendly commercial legislation of European nations, manufacturers who wished protection against stay laws and paper money—all these desired a strong central government to safeguard their interests. According to John Adams, "The Federal Constitution was the work of the commercial people in the seaport towns, of the slave-holding states, of the officers of the Revolutionary army, and the property holders everywhere." A modern writer confirms this contemporary judgment in the following statement:¹¹ "No one can pore for weeks over the letters, newspapers, and pamphlets of the years 1787-1789 without coming to the conclusion that there was a deep-seated conflict between a popular party based on paper money and agrarian interests, and a conservative party centered in the towns and resting on financial, mercantile, and personal property interests generally."

It seems clear that the conservative party was in control of the convention and framed a document which abundantly safeguarded their property rights. The popular house was restrained by a system of checks and balances. Congress was given full power to raise revenue, to impose protective tariffs, and to regulate commerce. The states were forbidden to issue paper money, to make anything but gold or silver legal tender, or to make laws impairing the obligation of contracts. The debts of the Confederation were made an obligation upon the new government, and Congress was given power to raise and support military and naval forces, for the protection of the country against both foreign and domestic foes. In these provisions assur-

¹¹ C. A. Beard, *An Economic Interpretation of the Constitution of the United States* (New York, 1913), 292.

ance was given that holders of public securities would be paid in full, the western frontier protected, foreign commerce regulated, manufactures fostered, and the financial excesses of the states prevented. The Constitution thus served to buttress the legal foundations of the system of individualism and private initiative which was being developed. It embodied the principles of modern competitive capitalistic industrialism.

Struggle over ratification.—The struggle over the adoption of the Constitution was protracted and bitter, but the friends of the Constitution were, as Woodrow Wilson put it, "a strong and intelligent class, possessed of unity and informed by a conscious solidarity of material interest," and they finally succeeded in securing its adoption in 1789 by a narrow margin. An important factor leading to its approval was the revival of prosperity, which began in 1787 and was in full swing during the next two years. Franklin, writing in 1787, declared that the country was "so prosperous that there was every reason for profound thanksgiving," and Washington a year later stated that "the people are emerging from the gulf of dissipation and debt into which they had precipitated themselves at the close of the war."

The cycle of speculation, crisis, hard times, and prosperity, beginning in 1783, culminated just in time to float the Constitution and the new government into power on a wave of prosperity. After the crisis of 1785 and 1786 the people had done the only two things possible to regain their prosperity; they had practiced economy and had worked hard. The importations of foreign manufactures and luxuries fell off decidedly, and many small domestic manufacturing establishments were started up. The first cotton factory in the United States was built at Beverly, Massachusetts, in 1787, and two years later Samuel Slater built his at Pawtucket. Both of them were crude affairs. They were followed soon after by others in Rhode Island, New York, and Pennsylvania. In lieu of the diminished West Indian and Mediterranean trade, Yankee skippers opened up bolder trades with China and the East Indies and with the Baltic.

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The China trade.—In 1784 the *Empress of China* sailed from Boston to the Orient, where it disposed of its cargo to good advantage in Canton. Two years later a group of Boston merchants conceived the idea of including the northwest coast of North America in this commerce, since furs could be obtained there and Canton was then one of the chief fur markets of the world, as the Chinese did not use coal and lacked wool for warm clothing. New England vessels were soon scouring the west coast of America and the South Sea islands and carried varied cargoes to China, but the most valuable were furs, especially of fur seals and sea otters. For a time they carried enormous quantities and made enormous profits. "Sturgis in one voyage collected 6000 skins, purchasing 560 in half a day with goods worth a dollar and a half in Boston. The same skins sold for \$40 apiece in the Canton market."¹² In return the Yankee skippers received tea, silks, nankeens, and China ware which were bartered in Europe or brought back to the United States.

Other American vessels between 1784 and 1789 penetrated also to Mauritius and India. The commercial treaties with Prussia and Sweden opened up a new commerce in the Baltic, and soon our ships were calling at Scandinavian ports and at Hamburg and Bremen. Profitable trades were also developed with the eastern Mediterranean, Egypt, and the Levant. The result of these developments was a gradual change from depression to prosperity. As the Confederation suffered from the former, so the new government benefited by the latter, though the causal relationship between economic conditions and governmental activities is usually pictured as just the opposite.

¹² R. G. Cleland, *A History of California* (New York, 1926), 3.

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CHAPTER X

NEUTRALITY AND FOREIGN COMMERCE

Continental wars and the neutral trade.—The first act of the Congress established under the new Constitution was designed to promote the carrying-trade and ocean navigation. There was a strong feeling against Great Britain because of her action in closing the West Indies to American ships, and both Madison and Jefferson were in favor of retaliatory measures. Congress, however, did not approve of the plan of discrimination against the country with which most of our trade was being carried on—in 1790 nearly half of our exports went to Great Britain and her dominions, and we received from them over three-fourths of our imports—though it did establish general discriminatory rates in favor of the American merchant marine. In order to promote the ocean-carrying trade a rebate of ten per cent was allowed on all imports in American vessels, while special encouragement was given to the China trade by making the duties on tea brought direct from the Orient in American ships about one-half of those on tea in foreign vessels or in American vessels if brought from London. By the second act of Congress further protection was granted by discriminating tonnage dues levied in favor of American built and owned vessels. The shipbuilding industry was also encouraged by confining registry under the American flag to vessels built in the United States; this provision remained in force until 1912.

The commercial outlook was not especially promising in 1789, however, for Great Britain was actively hostile and the protective legislation did not do more than offset the discriminations of other nations. But events in Europe had a profound effect upon our commercial development, and for the next quarter century questions of foreign trade ab-

sorbed the interest of the American people and vitally affected all branches of industry.

The same year that saw the establishment of our present form of government witnessed the French Revolution. In 1793 war broke out between France and England and spread until it finally involved all the nations of Europe. For over twenty years the best energies of the European peoples were devoted to destruction and warfare. These events made American shipowners, who throughout the struggle occupied a position of neutrality and at the same time possessed the only considerable neutral merchant fleet, the principal carriers of the trade between the warring nations and their colonies. Few ships except those of Englishmen or Americans were found on the high seas—the former because England was the undisputed mistress of the seas in contrast with her enemies, and the latter because of their neutral position.

After 1795 France abandoned the policy of maintaining her fleet on a footing of anything like equality with that of England and trusted to privateers to prey upon British shipping. French merchant vessels were left unprotected and their number declined until there was not a single merchantman flying the French flag to be found on the seas, while the fleet of Spain, ally of France, remained in port. And the effectiveness of the British merchant marine was reduced by the conversion of many ships to war purposes and by the attacks of French privateers. The chief effect of this was to throw into our hands the carrying-trade between France and her allies and their colonies. As a recent writer puts it, "While the great commercial nations were fighting one another for the carrying-trade of the world, America ran away with the bone over which they were quarreling."

Disregard of our rights.—At the very beginning of this struggle, in 1793, President Washington issued a proclamation of neutrality. But, in their efforts to cripple each other's commerce, the belligerents paid little respect to the rights of neutrals. Each one sought not only to capture the enemy ships, but to prevent the carriage to the enemy

of supplies in neutral ships. To give a color of legality to this, both Great Britain and France invoked the "Rule of War of 1756," according to which they held that a neutral could not engage in time of war in a carrying-trade which was closed to it in time of peace. Since the French West Indies had previously been closed to our trade, Great Britain proceeded against such of our vessels as attempted to carry colonial produce from those islands to France or from France to her colonies. Moreover, according to the rather uncertain principles of international law, provisions were then claimed to be contraband of war, and in 1793 both the French and the British governments ordered the capture and condemnation of neutral vessels carrying grain and other foodstuffs to the enemy's ports. British naval vessels seized our ships, engaged in either of these kinds of trade, and took them into port where they were condemned and sold.

The United States government protested vigorously against these acts, contending that grain was not a contraband of war, and that even enemy property on board a neutral ship was not liable to seizure, since "free ships make free goods." In deference to these protests Great Britain yielded the first contention in 1794. Since wheat and breadstuffs together made up our principal exports, their seizure would have been disastrous. On the second prohibition Great Britain would not budge, and continued to capture American vessels which traded directly between the French West Indies and France. But this was easily overcome by having American vessels which traded with the French, Spanish, and Dutch West Indies carry the products to the United States and then re-export them from there to European ports. While none of the United States ports lay on the direct route between the West Indies or South America and Europe, the fact that the roundabout route was favored by the trade winds and Gulf Stream made the voyage but little longer in point of time. By calling at an American port, reshipping the goods, and taking out fresh papers showing that the cargo came from the United States, the danger from English naval vessels or privateers was re-

moved for ships not carrying contraband of war ; drawbacks of the import duties were of course allowed on all re-exports from the United States.

That this trade was profitable may be indicated by the figures for a single year : in 1805 the re-exports from the United States to the Spanish West Indian and continental colonies were \$8,476,000, and those to the French West Indies were \$3,975,000 ; the imports from these places were in proportion, the majority of which were reshipped to Europe.

The path of neutrality was proving to be a rough one, and there was danger that in spite of our efforts we would be drawn into war. An attempt to preserve our rights by peaceful means was Jay's treaty in 1794 with Great Britain. This recognized some of the more obvious rights of the United States as a neutral, but it did not end impressment of our seamen nor search of our vessels, it did not concede the rights of enemy (French) property on neutral (American) ships, or of neutral trade between a belligerent and her colonies. Although Jay's treaty averted a conflict at that time with Great Britain, it greatly irritated France, almost to the point of war. France claimed that by the terms of the French Alliance of 1778 we had agreed to make common cause with her against Great Britain in the event of war. The nation was greatly offended by the policy of neutrality proclaimed by Washington, openly insulted our government, and was all but at open war with us from 1798 to 1800. In the year 1798 Congress declared the treaty of 1778 at an end, and we were freed from foreign entanglements.

Effect on our foreign trade.—The fluctuations in our foreign trade and the extent to which it was affected by events in Europe are shown in the table on page 233.

In spite of these embarrassments, the carrying-trade of American shipowners showed an enormous expansion during the period from 1793 to 1801. Even the commerce between Great Britain and the United States came to be carried more and more in American vessels ; in 1790 our ships carried less than half of this trade, but in 1800 they were carrying ninety-five per cent of it. Our exports grew from

\$26,000,000 to \$94,000,000, while our total foreign trade increased from \$57,000,000 to \$205,000,000 for these two dates. After 1796 the re-exports of foreign goods were practically equal to the exports of domestic origin, and in each of the years 1798-1800 and 1805-1808 the former exceeded the latter. It is evident that the carriage of supplies for the belligerent nations of Europe was responsible for a considerable proportion of the carrying-trade. But there was also a large and growing demand for our own agricultural products for exportation to the belligerents. Not only did the European wars withdraw from productive labor large numbers of men, and thus force the belligerent nations

FOREIGN TRADE OF THE UNITED STATES, 1790-1816
[ooo omitted]

<i>Year</i>	<i>Domestic Exports</i>	<i>Exports of Foreign Origin</i>	<i>Total Exports</i>	<i>Imp. Retained for dom. cons.</i>	<i>Total Imports</i>
1790	\$19,666	\$539	\$20,205	\$22,461	\$23,000
1795	39,500	8,490	47,990	61,267	69,756
1800	31,841	39,130	70,971	52,122	91,253
1805	42,387	53,179	95,566	67,421	120,600
1807	48,700	59,643	108,343	78,856	138,500
1808	9,433	12,997	22,430	43,993	56,990
1810	42,366	24,391	66,757	61,009	85,400
1814	6,782	145	6,927	12,820	12,965
1816	64,782	17,138	81,920	129,964	147,103

to depend upon outside sources for their needed supplies, but crop failures abroad increased the demand for American foodstuffs. The prices of wheat, corn, and meat were consequently very high, and the profits from the production and freight of these foods were enormous.

The development of the carrying-trade received a temporary check during the Peace of Amiens (1802) which left France, Holland, and the other European nations free to carry on their own trade; but upon the renewal of the war our commerce again expanded until 1807, when it was checked by the embargo. In this year our total foreign trade amounted to \$247,000,000; imports, \$138,500,000; exports, \$108,300,000, of which re-exports were \$60,000,000. The freight earnings of American vessels are esti-

mated to have amounted during this period to about \$32,500,000 per annum.

Under this stimulus the tonnage of American vessels engaged in foreign trade grew from 355,070 tons in 1790 to 1,089,876 in 1807.¹ The merchant marine of the United States surpassed that of any other nation except Great Britain. Between these two same dates the percentage of foreign trade carried in American bottoms increased from 41 to 92 per cent. The shipbuilding industry entered upon a period of prosperity: between the years 1798 and 1812 over 200,000 tons of American built ships were sold to foreigners. Not merely was the cost of building ships less in the United States, but also that of operating them. Tench Coxe estimated in 1791 that an American ship could be built for about \$34 a ton, while a similar French-built ship cost from \$55 to \$60 a ton; and in 1805 a British Parliamentary committee reported that the cost of a voyage for a vessel of 250 tons between England and America and return was 513 pounds sterling for the American vessel and 1083 for the English.² The result was, as Pitkin says, "The increase of American tonnage, during the period under review, has no parallel in the commercial annals of the world." Sailors shared the prosperity with shipbuilders and carriers; their wages rose from \$8 to \$30 a month, and many foreign sailors, especially Englishmen, became naturalized in order to take advantage of this extraordinary demand. "Almost the whole carrying trade of Europe was in their (American) hands," writes McMaster.³ "The merchant flag of every belligerent, save England, disappeared from the sea."

American vessels took advantage of this extraordinary opportunity to venture into hitherto unexplored fields. In 1798 an American vessel commenced trade with Argentina, and a little later with Venezuela. The next decade saw our ships in Brazil, and there began the phenomenal coffee trade which was to make us the greatest consumers of coffee in the world.

¹ E. R. Johnson, *et al.*, *History of Domestic and Foreign Commerce of the United States*, II, 28.

² Bogart and Thompson, *Readings*, pp. 205-206.

³ J. B. McMaster, *History of the People of the United States*, vol. III, p. 225.

American prosperity.—But the effect of the Continental wars was not confined to shipping and the carrying-trade. A European market was created for the foodstuffs of the United States. The belligerents were too busy fighting to raise all the necessary food themselves, and moreover the free export of grain from the Baltic regions, then the granary of Europe, was prevented by Napoleon. The unprecedented demand for the agricultural products of this country raised their prices to extreme heights. Thus the price of flour at Philadelphia averaged \$9.12 a barrel from 1793 to 1807, while for nine years previous it had been only \$5.41, and for nine years afterwards was \$5.46. There was also a growing demand for meat, for cotton and wool, and other raw materials. The production and sale of these products meant enormous profits for American farmers as well as shipowners, and was speedily reflected in the enhanced price of lands. According to official valuations by the federal government, the price of lands advanced over \$950,000,000 between 1799 and 1815.

Of course other factors were operative, such as the increase of population, the clearing of new lands, etc., but no small part may be attributed to the profitableness of agriculture during the greater part of this period. From whatever aspect we look at the developments of this epoch, it is evident that the American farmer and shipowner were profiting largely at the expense of the European belligerents. Moreover, the profits obtained from these sources were used to develop our resources and improve agriculture still further.

Blows at neutral trade.—The expansion of American commerce received a serious check in 1807 as a result of the various English Orders in Council and Napoleon's decrees, which were directed against the neutral trade. As we had before especially profited by our position as neutrals, so now our prosperity was most disastrously affected. The war between Napoleon and Great Britain has been called the fight between the Elephant and the Whale; one was supreme on land and the other on the sea, and they could not come to grips. Since a military or naval determination was impossible each resorted to economic warfare and tried

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to destroy the other's commerce. As each belligerent was being provisioned by the United States, a stoppage of this traffic by either would cripple the other. The English Orders in Council of August, 1804, had declared all French ports, from Ostend to the Seine, to be in a state of blockade, which was extended by the Order of May, 1806, to all the coast from the river Elbe to Brest.

While this was largely in the nature of a "paper blockade," it made neutral vessels trading with such ports liable to capture. The English government hoped in this way to deprive France of needed supplies from her colonies, and at the same time to stifle the alarming growth of the American carrying-trade. Napoleon, whom the battle of Jena had made master of the continent, retorted with the Berlin decree of November, 1806, which declared the British islands in a state of blockade and forbade all trade with them; further, no vessel which had touched at an English port was to be permitted to enter any port of France.

This was quickly followed by other British Orders in Council during 1807, which declared all ports belonging to France or her colonies or allies to be in a state of blockade, and stated that no neutral vessel could trade with them unless it first entered a British port, took out a British license to trade, and paid re-export duties. In answer to this, Napoleon issued the Milan decree, in December, 1807, which declared every ship sailing to or from Great Britain or her colonies to be good prize, and that every ship which submitted to the English orders was denationalized and liable to seizure. These decrees were directed against all neutral trade and were dictated by a desire not so much to harm it as to injure the antagonist who was profiting by this neutral trade. But the United States was the only neutral carrier of importance and naturally felt the full force of these acts. Privateers were licensed by England and France and their allies, and seized many a rich prize; less was done by ships of war. About 1600 American vessels and \$60,000,000 worth of property were captured by French, English, and other privateers.

One branch of the neutral trade which Great Britain was determined to stop was that carried on between France and

her colonies by American vessels. She therefore decided about 1805 to apply the doctrine of "continuous voyage" to products carried from the West Indies to the United States and then reshipped to France under the American flag. Such trade was treated as though it were carried on one continuous voyage and to it the Rule of War of 1756 was applied. Under this interpretation of the rule American vessels were stopped and searched and seized. America's trade was threatened with destruction and her rights as a neutral were entirely disregarded by these various acts. The climax was reached when the American frigate *Chesapeake* was fired upon by the British man-of-war *Leopard* and four of her crew impressed, of whom three were Americans.

Three courses were now open to Jefferson. He might let things go on as they were, trusting to diplomacy to obtain our rights ; he might declare war against England or France or both ; or he might refuse to trade with them. As a peaceful mode of retaliation for the injuries inflicted on American commerce, a Non-Intercourse Act had been passed by Congress in 1806, directed against England and her colonies, which was to go into effect in November, 1807. Before that time its operation had been postponed until December, and its repeal or non-enforcement was generally expected. Jefferson, who above all things desired peace, had also endeavored to conclude a treaty with England in 1806, but had not been able to secure a satisfactory adjustment of the matters in dispute. When, however, the news of these various indignities reached the United States, Jefferson recommended to Congress that an embargo be placed on American shipping or, as he expressed it, "an immediate inhibition of the departure of our ships from the ports of the United States."

The Embargo.—The Embargo Act, passed December, 1807, prohibited American vessels from leaving the ports of the United States for those of any foreign power. Foreign vessels might depart from the United States only in ballast or with the cargo which was on board when the law was passed. American vessels might engage in the coasting trade, but in that case they must give bonds to twice the value of the ship and cargo that the cargo would be landed

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in the United States. Later acts placed the navy and the revenue cutters at the disposal of the executive and gave him almost despotic powers in dealing with both foreign and domestic trade.

This law acted like an overloaded gun, which shoots backward as well as forward. The effects of the embargo were immediate, and upon our shipping and foreign trade they were most disastrous; in a single year our exports fell from \$108,300,000 in 1807 to \$22,400,000 in 1808. "In the large shipping towns," writes McMaster, "business of every kind fell off, and soon utterly ceased. The rope walks were deserted. The sailmakers were idle. The shipwrights and draymen had scarcely anything to do. Pitch and tar, hemp and flour, bacon, salt fish, and flaxseed became drugs upon the shippers' hands. But the greatest sufferers of all were the sailors." The same author estimated that 55,000 seamen were thrown out of employment, and that 100,000 mechanics and laborers were out of work for a year.

The classic example usually given of the effects of the embargo is taken from the writings of John Lambert.⁴ Describing his visit to New York City in November, 1807, he mentioned the immense trade with every part of the world and the activity of all lines of business. In April, 1808, he returned to the city, after the embargo had been in operation four months, and found the ships dismantled, the counting houses closed, and the merchants and their employees idle. "The coffee-houses near the waterside were almost deserted; the grass had begun to grow upon the wharves." Some mitigation of these losses was found in the expansion of the coasting trade, and in the diversion of capital and labor from commerce to manufactures.

The effects of the embargo were most severely felt in New England and New York, where foreign commerce was greatest, but even in the South and West they were harmful, and were felt by all who had depended upon foreign trade for marketing their products or obtaining supplies. The farmers who had been buying land on credit and raising greater crops in expectation of the foreign demand, soon

⁴ Bogart and Thompson, *Readings*, 214.

began to feel the results of lower agricultural prices, and many of them were forced into bankruptcy. This was true even of the producers of non-perishable commodities like tobacco, for the domestic demand did not absorb their production. Lumbermen and fishermen and finally merchants were injured by the stoppage of trade with the outside world. The jails were filled with debtors, thirteen hundred men in New York City alone being thrown into prison for debt.

On the other hand the cutting off of foreign supplies gave a stimulus to domestic manufactures, and household production was revived on a wide scale. Gallatin, the Secretary of the Treasury, commented in 1809 on the fact of an extraordinary increase of household manufactures during the previous two years, and thought it "probable that about two-thirds of the clothing, including hosiery, and of the house and table linen, worn and used by the inhabitants of the United States who do not reside in cities, is the product of family manufactures."

The opposition to the embargo was so strong that Jefferson finally yielded to the pressure, and fourteen months after its enactment the act was repealed. In its place was substituted the Non-Intercourse Act of 1809, which removed the embargo upon American shipping and instead adopted the policy of non-intercourse with Great Britain and France. As a result of these acts, not merely was our commerce seriously affected, but our treaty relations were strained or broken.

The War of 1812.—When the embargo gave way to non-intercourse, American commerce quickly responded to the opportunity, and in 1811 the tonnage engaged in the foreign trade was 948,247 tons, a figure not equaled again until 1847. But the evils against which the embargo had been directed continued unchecked; American seamen were still impressed by British vessels, and renewed restrictions were placed upon our neutral trade by both Napoleon and England. As a result of these continued acts we finally declared war against England in June, 1812. Owing to her naval strength our foreign commerce could now be carried on only at great risk, and much of our shipping was de-

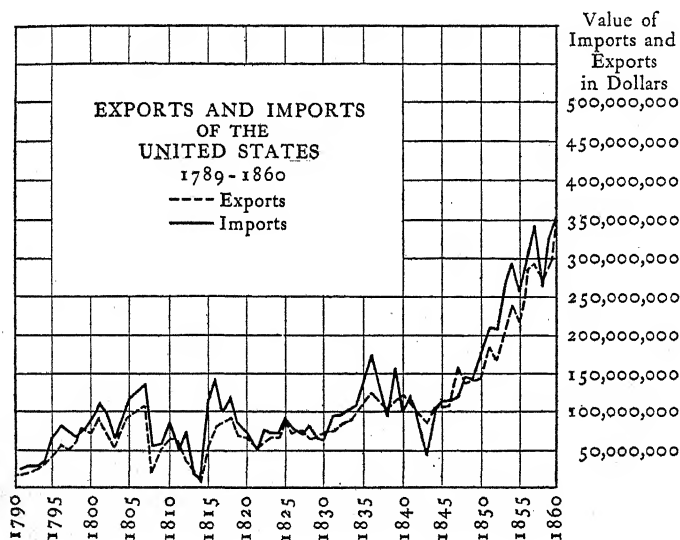
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stroyed. In three years we lost over 1400 merchant vessels and fishing boats, and 1813 saw the tonnage engaged in foreign trade reduced to 672,700 tons, the lowest point reached since the year 1805. On the other hand, the five hundred odd American privateers which were commissioned by our government captured over 1300 British vessels.

The War of 1812 was a series of contradictions, and perhaps the greatest was the treaty of peace in 1814. None of the questions for which we had gone to war was settled definitely, but England ceased to impress our seamen, and the conclusion of the Napoleonic wars soon afterwards rendered unnecessary for the time our contentions as to the rights of neutrals and the definition of a blockade. Our navy had won renown for itself and we had successfully asserted our commercial independence. The war was a phase of our commercial rivalry with Great Britain, and brought out the irreconcilable views of the two nations as to the rights of neutrals as against those of belligerents in time of war. The period of restriction between 1807 and 1815 had, moreover, called into existence other interests, and economic activities had been diverted into channels other than foreign commerce, especially into manufactures and the development of the West.

Foreign commerce after the War of 1812.—The effect of the war with England had been to reduce our foreign trade to its lowest levels: in 1814 the exports were only \$6,927,000 and the imports \$12,965,000. Immediately after the declaration of peace, however, the country was flooded with English goods which had accumulated during the closure of the European markets and which were now dumped on the American markets at low prices and upon easy terms. Imports rose to \$113,000,000 in 1815 and \$147,000,000 in 1816; these were far in excess of the exports, which were only \$52,000,000 and \$82,000,000 for the same two years. Such a speculative expansion was abnormal and unhealthy and, as after the Revolution under similar circumstances, was followed by a crisis and depression, culminating in 1819. The unique and profitable re-export trade, which had enriched our shipowners and producers during the Napoleonic wars, now came to an end

as European trade resumed its usual course and was carried in European vessels. American wheat and flour, which during the European wars had been in great demand abroad, were now virtually denied admission to Great Britain by the corn law of 1815, but their place as leading export was taken by cotton for which there was an insatiable foreign demand. On the whole, however, there was a steady decline in our foreign commerce until about 1830; imports were held off by adverse tariff legislation and the development of our own manufactures, and exports were curtailed by hostile tariff legislation of European countries.



During the decade of the thirties there was another speculative upward swing in our imports, due to the large borrowing abroad and the investment of foreign capital in our internal improvements, and also to the reduction of tariff duties; exports increased, but not in the same proportion. By 1836 our foreign commerce amounted to over \$300,000,000, the highest figure yet reached. The panic of 1837 and the resulting depression reduced our foreign trade to \$125,000,000 in 1843, but between 1847 and 1860, with the brief exception of the year 1857, in which a second panic occurred, the foreign trade of the United States reached

the highest point it had ever attained. In 1861 our imports were \$353,616,119, and our exports \$333,576,057, or a total of \$687,802,176. The general movements of our foreign trade are shown on the graph on page 241.

Geographical distribution of commerce.—The causes for this growth will later be treated more fully and need not be given here. Of the exports cotton constituted about one-half, having forged far ahead of tobacco and rice as the leading southern product. From the northern and middle States agricultural foodstuffs and crude raw materials made up most of the exports, especially wheat and flour, corn, wool, hides, naval stores, and furs. England was our best customer, taking most of our cotton and, after the repeal of the corn laws in 1846, an increasing amount of foodstuffs. Europe as a whole took over 77 per cent of our exports, the best customers being France, Germany, Holland, and Spain. The trade with the Orient showed considerable growth as British wars with China in 1840 and 1856 threw a part of that trade into our hands, but it always remained small in amount. The West Indian trade became of relatively less importance during this period but that with our North American neighbors increased. Commerce with Central and South America had not yet been developed, except with Brazil whose coffee was already entering our markets.

Of the imports over half were manufactures ready for consumption, and most of these came from Europe, which altogether supplied in 1860 about 60 per cent of our foreign wares. The remainder, consisting largely of foodstuffs, came from North America, South America and the Orient, in the order named. Nearly all of the imports entered the country through northern ports, almost two-thirds through New York City alone. New York occupied a pre-eminent and unassailable position. She passed Philadelphia in 1820, and cut deeply into the trade of her other rivals, Baltimore and Boston. Her success was due to the fact that she drew upon a rich hinterland for exports by way of the Hudson River and Erie Canal, and as the center of the greatest consuming area in the United States furnished the best market for imports. This situation led to constant complaints from the South, which contributed so large a

share of the exports and wished to see the import trade of its ports developed. But the South consumed only about one-tenth of the total imports and ships could not always make up an export cargo there. It proved impossible to revive the direct trade with Great Britain which had made Charleston such an important colonial port.

The South shared in the export trade, however, that of New Orleans being especially large. The major part of the export trade was carried on from New York, New Orleans, Boston, Baltimore, Mobile, Charleston, and Philadelphia, in the order named. Taking the period from 1789 to 1860 as a whole, the merchandise imports exceeded the exports, showing a steady investment of foreign, especially British, capital in the United States, though the unfavorable balance of trade was partly offset by freight earnings of our merchant marine and the export of gold from California.

Such an expansion of foreign commerce called for a corresponding development of the credit system. Great Britain was seeking markets for the products of her industrial revolution and extended long credits to American importers, running up to fifteen months. Writing of the thirties, Bolles says,⁵ "At this period our credit was remarkably good in London; and not only was merchandise sent here on credit, but capital was loaned." The American export trade, especially that of cotton, was also dependent upon credit. The factor, descendant of his colonial prototype, stood in the center of a chain of credit transactions which extended in both directions between the southern planter and the English merchant.

Commercial legislation and treaties.—During this period a new step was taken in shipping legislation by the establishment of reciprocal liberty of commerce. It was beginning to be seen that discriminating tonnage and tariff duties did not really assist American shipping because foreign countries usually retaliated with similar discriminations against our vessels. By an act of 1815 all the discriminating duties imposed by former laws, both on the tonnage of foreign vessels and on the goods imported in them, were repealed in the case of the direct trade with any foreign

⁵ A. S. Bolles, *Industrial History of the United States*, p. 867.

nation which should abolish its retaliatory duties against us. Since our duties were heavier than those of most of the countries with which our principal trade was carried on, the substitution of reciprocity for retaliation injured rather than helped the American carrying-trade.

The real gainers from this policy were the producers of goods for export, who benefited from the lower freights. In accordance with this generous offer, a commercial treaty with England of the same year provided that in the direct trade between Great Britain and the United States neither country should levy discriminating duties against the ships or commodities of the other. But Great Britain kept her West India ports closed to our vessels after the treaty as before, and we soon retaliated by new discriminating duties. American goods found their way into the British West Indies, however, by many a devious route, and cargoes landed on the neighboring French, Spanish, Danish, and Swedish islands were trans-shipped to the British ports with little additional cost. The rigor of official exclusion was mitigated by such evasion. In 1830 England agreed to open these ports and we removed many of the restrictions upon British commerce. As a result our imports from the British West Indies increased from \$1901 in that year to \$2,965,585 in 1840.

To meet the absolute prohibition of those states which simply closed their ports to us, Congress in 1817 made our navigation laws still more severe: the prohibition of the coasting trade to other nations was repeated, and ships engaged in foreign trade, unless two-thirds manned by American sailors, were taxed fifty cents a ton. But in this act also the door was left open for repeal in the case of foreign nations in the indirect or carrying-trade, and in 1828 the President was authorized to suspend discriminations against vessels entering our ports from any country provided that country granted similar concessions to our ships. Treaties were accordingly negotiated which provided for "reciprocal liberty," with France in 1822, Prussia in 1828, and in subsequent years with Hamburg, Bremen, Lübeck, Norway and Sweden, Austria, Russia, Portugal, Holland, Belgium, and

Switzerland. Commercial treaties were also signed with most of the Central and South American States.

Freedom of commerce with other nations on a basis of reciprocity had by 1830 been obtained by the United States. The old mercantilism was beginning to break down in Europe. The decade of the twenties saw the beginning of a more liberal policy in Great Britain, looking to the importation of cheap raw materials and the opening up of wider markets for her manufactures, and for both these ends a larger trade with this country was essential. And when, by the repeal of the corn laws in 1846 and of the Navigation Acts in 1849, British trade was thrown open, the United States applied to Great Britain the provisions of the act of 1828, which were already enjoyed by other nations.

American shipping from 1815 to 1860.—Shipbuilding and shipping suffered all the vicissitudes which affected foreign commerce, and were subjected to some additional trials peculiar to themselves. The tonnage of vessels engaged in the foreign trade remained about the same between 1815 and 1840, with only slight temporary fluctuations, so that in the latter year the registered tonnage engaged in foreign trade was 763,800 tons, or only about 63,000 tons more than in 1815. Since the population was increasing, this really represented a relative falling off, from a per capita tonnage of 13.43 tons in 1810 to 4.25 in 1839. The capital of the country was being invested during this period in manufactures, internal improvements, and the development of our natural resources, all of which offered larger returns than the carriage of ocean freight. The high tariff too, which imposed duties upon the materials entering into ship building, considerably increased the cost of construction and equipment; and at the same time, by stimulating our domestic industries, diminished our dependence upon foreign supplies. About 1830, moreover, Great Britain began to increase its shipping, and to bid vigorously for the ocean carrying-trade.

But, while the tonnage of our foreign shipping showed a relative decline, its character was being improved. By 1816 the traffic across the Atlantic was deemed to be sufficient to support regular sailings, and between this date and 1832

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lines of fast-sailing packet boats were established between New York in the United States, and Liverpool and London in England and Havre in France. Previous to this vessels had sailed when and if cargoes were available, but these packet lines, specializing on passenger traffic and high-class freight, operated on regular schedules, making the transatlantic trip in eighteen to twenty days; *Dreadnaught*, the fastest of the packet ships, once made the trip from New York to England in 11½ days. In the building of wooden sailing vessels both the cost of materials—soft wood being used instead of hard, as abroad—and the skill of our shipbuilders gave us an advantage.

A new type of vessel was now developed, the magnificent sailing clipper, which proved superior to all others with which it came in competition. The first clipper ship, designed by John W. Griffiths in 1845, was built with sharp lines to give it the maximum speed, and with a long, narrow, overhanging prow from which the vessel gained its name. It was especially designed for the China trade and cut the sailing time between New York and Canton three weeks. The record run of one of these clipper ships, *Lightning*, was 436 miles, the fastest day's run ever made by a sailing vessel, and rivaling that of many modern steamers. So superior in speed were they that, according to Levi Woodbury, an American vessel could make three trips between the United States and England while a broad-beamed British ship was making two. Also a radical change in rig and sail plan and the use of improved blocks and mechanical appliances reduced the number of seamen to two-thirds those required on a foreign ship. The high character of masters and crews also made American vessels preferred by shippers.

Beginning with about 1840 a number of events combined to stimulate greatly the shipbuilding industry in the United States, and to give to American sailing vessels a leading place as ocean carriers in the world. In 1840 the British-China war diverted a large part of the China trade into American hands and led to the building of the China clippers. This foreign trade was increased by the revolutionary outbreaks in Europe in 1848, by the Crimean War in 1853 to 1856, and by the rebellion in India in 1857. The discovery of gold in

California and Australia and the enormous emigration to those countries led to an unprecedented passenger traffic at fabulous rates, which, with the large immigration into the United States after 1846, gave immense profits to shipowners during these years. At the same time the lowering of the tariff in 1846 had reduced somewhat the cost of shipbuilding in the United States. As a result of this stimulus there was a great over-production of ships: the tonnage engaged in foreign trade grew from 763,838 tons in 1840 to 2,494,894 tons in 1861, the highest figure for foreign tonnage that has ever been reached in our history prior to the World War. Including the ships engaged in the domestic trade and the fisheries, our tonnage was one-third that of the world, and was practically equal to that of Great Britain.

The introduction of the iron steamship.—During this very period of the supremacy of the American sailing vessels, a change was being effected in shipbuilding which was destined to revolutionize the ocean carrying-trade and lead to the eventual undoing of our foreign shipping. This was the substitution of steam for sails, and of iron for wooden hulls. Unfortunately for the American merchant marine, the excellence of the clipper ships blinded our naval architects to the importance of the changes and led to an unreasoning confidence in our wooden sailing vessels. The first successful steamboat was built by an American inventor, and the first steamship to cross the ocean was owned by an American shipowner, but it was left to British builders and merchants to make practical use of ocean steam navigation.

Great Britain immediately took the lead in the construction of iron steamers, while our shipbuilders, confident in their superiority, clung to the wooden ship. The industrial revolution had transformed the British iron and steel industry. The raw materials were conveniently located near the sea-coast, iron plates could be cheaply manufactured, and marine engines had been further developed than in this country. In building wooden ships the United States had enjoyed all the advantages, but the tables were now turned. Nearly 25 per cent of the total tonnage of vessels built in Great Britain in 1853 were steamers, and a little more than 25 per cent were of iron.

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In the United States, on the other hand, although 22 per cent of the total tonnage built consisted of steamers, hardly any were of iron. The vessel of the future was to be the iron or steel steamer, and by not changing the material used in the construction of their ships American shipbuilders gradually yielded first place to Great Britain, which seized the opportunity of regaining her lost position on the seas. The British government encouraged the industry by subsidizing the steamship lines for mail service, beginning with the Cunard line in 1838 and continuing down to the present time. Between 1845 and 1848 Congress granted subsidies to American steamship lines, of which the Collins line between New York and Liverpool successfully competed with the Cunard line, but opposition to the subsidy policy finally caused the withdrawal of this form of encouragement. Although our tonnage was increasing rapidly, in 1861 only 65 per cent of our foreign commerce was being carried in American bottoms, as against 92 per cent in 1807, and 83 per cent in 1840.

The coastwise trade.—After the discriminating duties of 1789, but even more after the enactment of the law of 1793, which prohibited foreign vessels from taking part in the coasting trade, the number of vessels engaged in the domestic commerce of the United States increased rapidly. In 1793, the first year in which an accurate list of American shipping was obtained, the tonnage of vessels so engaged was 122,071 tons; in 1817 it was 500,000, and in 1840 it had grown to 1,000,000 tons, owing to the great expansion of the lake and river commerce. In the next twenty years the tonnage more than doubled again, amounting to 2,500,000 tons in 1860. Ever since 1820 the tonnage of vessels in the domestic trade had equalled that in foreign trade, and after 1860 it greatly exceeded the latter. It is impossible to say just how this traffic was divided between the coasting and inland trade, but each branch was expanding.

There was a profitable coastwise trade between northern and southern ports, carried on by northern vessels, which carried New England fish, manufactures, boots and shoes, dry goods, and other commodities to the South, to an amount

of \$100,000,000 a year. In return they brought back cargoes of southern staples, cotton, tobacco, and also foodstuffs, hay, and similar commodities, both for export and for domestic consumption. The falling off of foreign commerce was amply compensated by the growth of domestic commerce, which provided business for American vessels.

Here was an illustration of the change in the outlook of American business men: they were turning their backs on the sea and looking to internal development. In local trade the sailing vessel was able to hold its own against the steamer. Opportunity for longer voyages was given when the rush to the California gold fields began; this was held to be coastwise trade and was consequently restricted to American vessels and brought in large, though temporary, profits. The building of the Chesapeake and Albemarle canal, which was completed in 1860, reduced the dangers of the perilous voyage around Cape Hatteras, and by so much aided the coasting trade.

Conclusion.—There is danger, in a recital which emphasizes the effect of war, of commercial legislation, and of technical developments in shipbuilding, of losing sight of the fundamental basis of this growing foreign trade. This was to be found in part in the economic specialization of the United States in the great agricultural staples which entered into world trade, and in part in the fact that this country was in a stage of economic development different both from that of Europe and from that of the other countries with which we traded. R

Our exports were still for the most part derived from the natural resources of a new country which were in constant demand by the countries of the Old World, while our imports reflected our increasing capacity to pay for the comforts and luxuries of a more developed civilization. This foreign trade represented in effect an exchange of our surplus agricultural wealth for the redundant manufactures of England and the specialized products of other countries. It was the growth in wealth and a higher standard of living that sent American ships to the Baltic and the Mediterranean, to the Far East and to Central and South America.

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CHAPTER XI

THE WESTWARD MOVEMENT

Significance of the westward movement.—From the beginning of our history the general movement of the population has always been westward, but the expression “westward movement” has a peculiar significance for the century beginning about 1763, for then began on a large scale the serious task of occupying and subduing the country west of the Alleghenies. ✓Other peoples in their territorial expansion have had to meet and conquer rival nations. With the exception of the Indians, who often obstructed or diverted but never permanently hindered the westward expansion, the ✓only serious obstacles at this time in the way of the Americans were the natural barriers and the inadequacy of the existing means of transportation.

In the United States the westward movement was the quiet, resistless, onward march, not of an invading army, ✓but of peaceful settlers. ✓For a century this continued, giving character to American life and a sturdiness and energy which were gained only by contact with primitive conditions and large opportunities. By this process the West was transformed from a rude and boisterous frontier to settled and prosperous communities, in much the same way that the economic and institutional development of Massachusetts and Virginia and the other colonies had been worked out. The growth of the West reacted upon the rest of the country, and the very nature of the people seems to have been changed by this great task of subduing a continent, gaining at once in initiative and vigor.

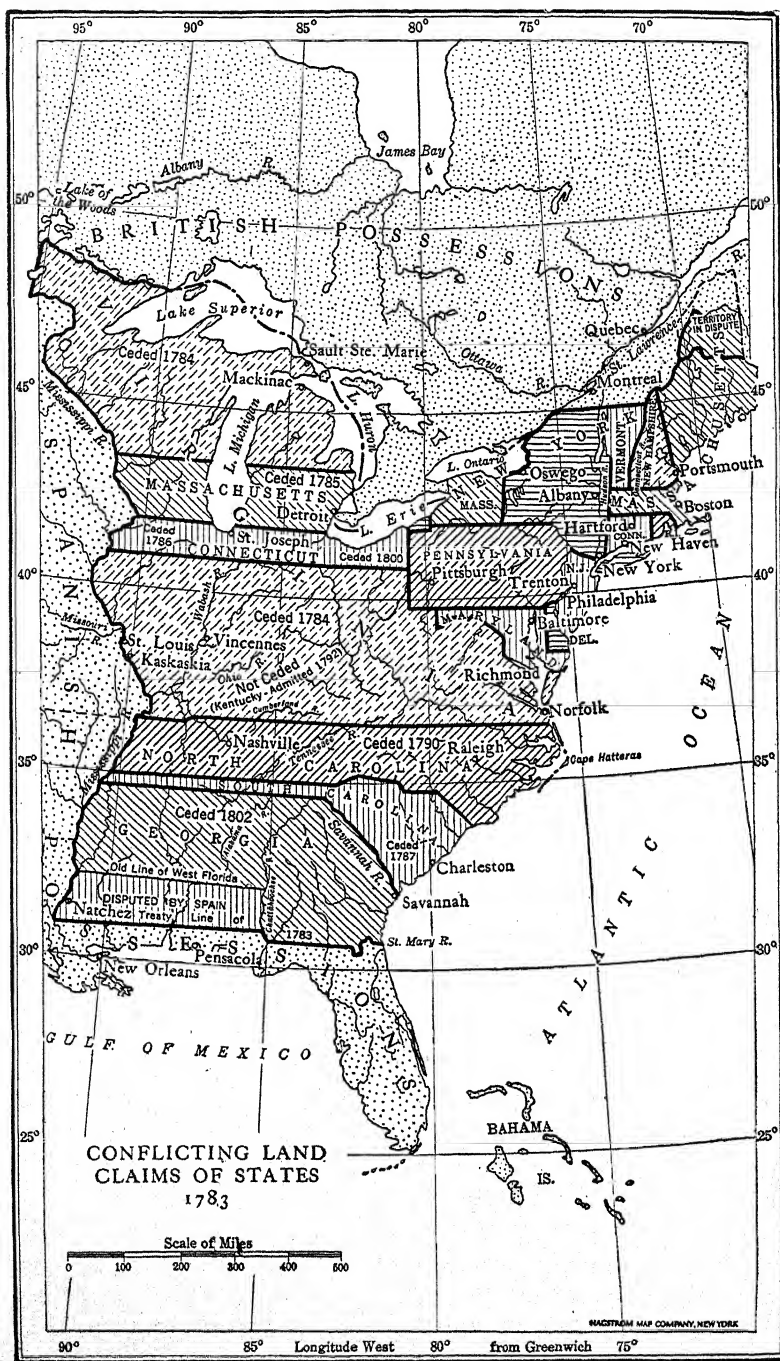
✓Beginning almost with the Revolution, and continuing with renewed energy after the embargo and the War of 1812, the people of the United States addressed themselves as a nation to the development of the internal resources. ✓After 1808 capital and labor began to be diverted from commerce

and shipping and invested in western lands and eastern manufactures ; attention was now directed to domestic development rather than to foreign policy. The American people, who had hitherto faced the Atlantic Ocean and had been especially concerned with their relations to Europe, now turned their backs to the coast and addressed themselves to matters of internal policy and development. For the next ninety years the great work of the American people was that of opening up and developing the resources of the continent, and was surpassed in importance, if at all, only by the struggle for the preservation of the Union. ✓ This was the beginning of an economic revolution which gave color to and dominated our entire industrial and political history from that day almost to the end of the nineteenth century.

The land cessions.—By the Treaty of Peace of 1783 ✕ Great Britain ceded the western crown lands to the United States. But immediately those states which had had previous claims to these lands by charter, by Indian treaties, or by conquest, began to urge these claims. The question of the western territory at once became a momentous problem for the Confederation. Virginia had already, in 1776, declared Kentucky to be a county, and two years later named the country northwest of the Ohio River as a second county, while North Carolina laid claim to what is now Tennessee. Both states opened land offices for the sale of these lands, and made grants to their soldiers. Three of the states—Massachusetts, Connecticut, and New York—contested the claims of Virginia to the territory north of the Ohio, and the first two also claimed lands in the unsettled portions of New York and Pennsylvania. Seven of the states claimed an extension of their western boundary lines ; these were Massachusetts, Connecticut, New York, Virginia, North Carolina, South Carolina, and Georgia. These claims are shown on the map on the following page.

The other six members of the Confederation protested against the claims of these "landed states," and urged that the United States become the successor of the British crown to the western lands, since these had been won by the united forces and efforts of all the states. When the Articles of

1616



Confederation were submitted to the states for ratification, Maryland refused for three and a half years to ratify until the landed states should cede their claims to western lands to Congress to be used for the common good. In 1780 New York offered to cede its western claims to the central government without limitations and was followed by Virginia which, however, made large reservations in the present state of Ohio of military and bounty lands. The other claimant states slowly fell in line, but it was not until 1802 that Georgia, the last state to do so, surrendered her western claims.

One cannot study the problem of the western crown lands surrendered by Great Britain in the Treaty of Paris without being impressed by the dangers which lurked in their unwise disposition and by the wisdom of the final settlement. The cessions prevented a succession of unhappy controversies among the states, inevitably arising from their conflicting claims, from boundary disputes, from difficulties of distant administration, and from other causes. They removed a serious cause of dissension between the two groups of landed and landless states, and, by creating a public domain, did much to give a national as well as a material basis to the new government. By these cessions the United States, which did not own a single acre of land in 1781, became possessed of an immense public domain of 488,248 square miles, which was larger than the area (341,752 square miles) of the thirteen original states.

The land ordinances.—The next step was to provide for the administration of the public domain and for this purpose the three land ordinances of 1784, 1785, and 1787 were passed by the Congress of the Confederation. That of 1784 provided for the division of the western territory into states and for the treatment of the Indian claimants of the land; a treaty with the Indians the same year opened the southern part of this territory to occupation. The other provisions of this act were superseded by the more famous ordinance of 1787 before they could be put into effect. The ordinance of 1785 provided for a system of rectangular surveys, according to which the land was to be divided into townships six miles square, and each township in turn was subdivided into lots of

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one mile square or 640 acres, numbered from 1 to 36.¹ The proceeds from the sale of lot number 16 in each township were reserved for the support of public schools, to which was later added lot number 36 in most of the states.

Under this ordinance the government made its first land surveys, the so-called "seven ranges" in Ohio. Arrangements were also made for the establishment of land offices where the land could be sold, the price being fixed at \$1.00 per acre. This method of rectangular survey by townships fixed accurately the bounds of every parcel of land, permitted an accurate description, provided a simple, convenient, and cheap mode of registry and conveyance, and gave a safe title. In all these respects it marked a striking advance over the method of indiscriminate locations, tortuous and indefinite boundaries, and often conflicting titles of the southern states and of those parts of the country which did not adopt this system.²

The Ordinance of 1787 provided for the organization and government of the Northwest Territory. This was to be divided into not less than three nor more than five states which would be admitted into the Union when sufficiently populated. Thus it was determined at the outset of our national existence that the newly settled districts were not to be exploited for the benefit of the older states, but were to become independent and co-ordinate commonwealths. In the meantime a territorial government was to be organized, which was highly centralized and required property qualifications for both voters and office holders. The second section stated the general principles which were to govern the tenure, conveyance, and inheritance of property, which was to be as

¹ An amusing comment upon this system of surveys is made by a French writer, E. Reclus (*The Earth*—p. 77) as follows:

"The country, which is thoroughly surveyed, is divided into townships of about six miles on each side, and subdivided into square miles, which are again separated into four parts. All these quadrilateral spaces are so accurately set that each of their sides faces one of the four cardinal points. The purchasers of large or small squares never allow themselves to deviate from the straight line; like true geometers, they construct their roads, build their cabins, dig their ponds, and sow their turnips in the direction of the meridian or the equator. Thus the prairies now bear a strong resemblance to an immense chessboard. Even the railway engineers will hardly make up their minds to cross the lines of longitude in an oblique direction."

² A large amount of land in the southern states never came under this system, as it was not incorporated in the public domain; this was the case in Kentucky, Tennessee, and Texas, and in parts of Georgia, Florida, California, and other states.

simple and democratic as possible ; by it primogeniture was abolished. "The Ordinance," writes Professor T. N. Carver,³ "has determined the form of land ownership throughout the entire West, and even the older states in which certain relics of a feudal tenure still survived have since remodelled their land laws after the pattern set by this Ordinance." Other clauses provided for religious freedom, political and civil liberty, education, a republican form of government, freedom of navigable waters, and a final one forbade slavery in the Northwest Territory. Many of the provisions of this famous Ordinance were later incorporated in the Federal Constitution.

Disposition of the public lands.—It was not enough for the western territory to be acquired by the United States and for a system of government to be set up ; it must be disposed of and put into the possession of occupiers who would use it. In the disposal of the public domain two distinct policies have been followed by the federal government. According to the first, which continued from about 1784 to 1820, it was held that the lands should be used and sold for the sake of revenue, to reduce taxes, and to pay off the public debt. Under the second, which has obtained from 1820 to the present time, the western lands were to be disposed of — sold or given away — to settlers and others for the sake of providing homes for the possessors and of developing the country.

Since a rapid disposal of the public lands and immediate revenue were desired at first, it was provided in 1785 that the land be sold only in large quantities and at low prices ; 640 acres was the minimum amount one person might purchase and the price was one dollar per acre. But since large purchasers received considerable reductions, the revenue barely sufficed to pay costs of survey and registration. A few large sales were made under this act, all in the present state of Ohio ; by 1800 these amounted to 1,484,087 acres, or less than 100,000 a year. The peopling of the land was evidently going on very slowly. So slow was the early westward movement that in 1803 Thomas Jefferson estimated

³ "Historical Sketch of American Agriculture" in L. H. Bailey's *Cyclopedia of American Agriculture*, IV.

that it would be a thousand years before the region east of the Mississippi would be fully settled. The effect was not merely to retard the sales but to concentrate the holdings in the hands of a few proprietors or speculators rather than in the possession of actual settlers, and this policy was accordingly modified in 1800, in order to meet the demands of men of small means who wanted land.

The credit system.—The act of 1800 and subsequent acts permitted the sale of the land in minimum tracts of 160 and 320 acres, on credit, at the fixed price of \$2.00 an acre. Under this instalment system, by which only one-fourth of the purchase money had to be paid in cash, the remainder falling due in three annual payments, comparatively large sales were made, amounting in the next twenty years to about 18,000,000 acres. Many of the purchasers were speculators and many were venturesome settlers who assumed obligations beyond their ability to fulfill, especially during the hard times from 1808 to 1815.

It was possible for a settler to obtain a section of 640 acres for an initial payment of only \$331 (including registration fees, etc., of \$11), trusting to meet later payments from the proceeds of crops yet to be planted. For farmers in districts accessible to markets this was a fairly safe venture but in the Ohio country, which was fairly choked with its own produce, it invited disaster.

After 1815 the great rise in the price of cotton to 26 and 34 cents a pound led to still greater speculation in southwestern lands, the sales amounting to over five and a half million acres in the single year 1819. The fall in the price of cotton the following year and other causes led to another crash, and the arrears to the government on past due instalments for land purchases grew to \$21,213,350. Numerous special relief acts had already been passed upon the demand of impecunious debtors, but in 1820 a general adjustment was made by allowing those indebted to the government to retain the proportion of land already paid for upon relinquishing the remainder to the United States. About 3,500,000 acres reverted to the government under these acts. Perhaps three-fourths of the settlers who moved west before 1820, however, had not purchased their farms at the public

land offices, but had settled in regions like Kentucky or Tennessee, which never came under the federal land system, or on land held under earlier titles, as in Ohio. These lands could generally be had for less than the minimum price of the public lands.

The Act of 1820.—The early policy of the government, that of land sales for the sake of revenue, gradually gave way to the second and what has proved to be the permanent policy concerning the public domain. This is the system of land grants for actual settlement in small lots suitable for operation by a family. By this act sale for credit was abandoned and the price lessened to \$1.25 an acre, while the minimum tract to be sold to one individual was reduced to eighty acres. The earlier system had been denounced by western men, who objected to the use of the public domain as a source of government revenue, to the high price of the land, and to the plan of instalment selling. Representatives of the eastern states, on the other hand, had resisted any change in these provisions, as they feared that land values in the East would be lowered if the public domain were opened up too rapidly, and that a reduction in the price of the land would drain off the population from the seaboard and cause a rise of wages in the manufacturing states. When the new system was introduced it was found that no dire results followed; for the next ten years the sales of public land were very steady, averaging about 1,000,000 acres yearly.

The introduction of the steamboat upon western waters, the extension of cotton culture throughout the Southwest, and the greater demand for agricultural produce owing to the growth in population, all led to a steady demand for land for actual cultivation and settlement. The possibility of using the public lands as an agency of social reform, of providing homes for the workers, gradually dawned upon the workingmen, and they now began to demand, in their papers and conventions, that speculation stop and the public domain be made available immediately to the whole people. Land reform became an important issue in the platforms of organized labor, and during the years from 1825 to 1832 many schemes of a most questionable character were introduced into Congress, for the most part by southern members, for

disposing of the lands by sale or gift, for reducing the price to so little as thirty cents an acre, or for handing over the public lands to the states for them to dispose of.

The pre-emption system.— One of the problems which presented itself almost from the beginning was the treatment of the "squatter." As the incoming population pressed in, it tended in its haste to pass beyond the surveyed lands and to settle in the wilds before they had been opened to settlement. The public domain was theoretically not open to settlement until it had been surveyed and was offered for sale through land offices which were opened at different places throughout the West. As a matter of fact the pioneers did not wait for government surveys, which lagged behind actual settlement, but "squatted" on the land. Here they built houses and made improvements, all of which they stood to lose when the land was offered for sale. For the benefit of these premature settlers the pre-emption system was gradually developed. This was not a free grant of land, but simply the guarantee to the settler of a prior right to purchase, at the established price, the land upon which he had settled, without competition of any sort, in order that he might not lose the value of his improvements. It was a concession to the western point of view and to the small holder. Indeed, as time went on and the desirability of settling the western lands was more fully recognized, the squatter came to be regarded not as a lawbreaker but as a brave and self-sacrificing pioneer. The pre-emption system operated as a disguised credit system for the squatter, for it permitted him to defer payment for the land until he had improved it and could more easily meet the payment. In order to protect their interests against speculators the squatters organized "claims clubs," which became practical regulators of land claims. The legislatures of the western states legalized these frontier customs.

The first pre-emption act had been passed in 1801 to protect the settlers on the lands of the Miami Company, which had reverted to the government. Congress provided that all persons who had taken up land in the tract and made improvements should have first rights in the resale at a fixed price. Numerous other pre-emption acts were passed to care

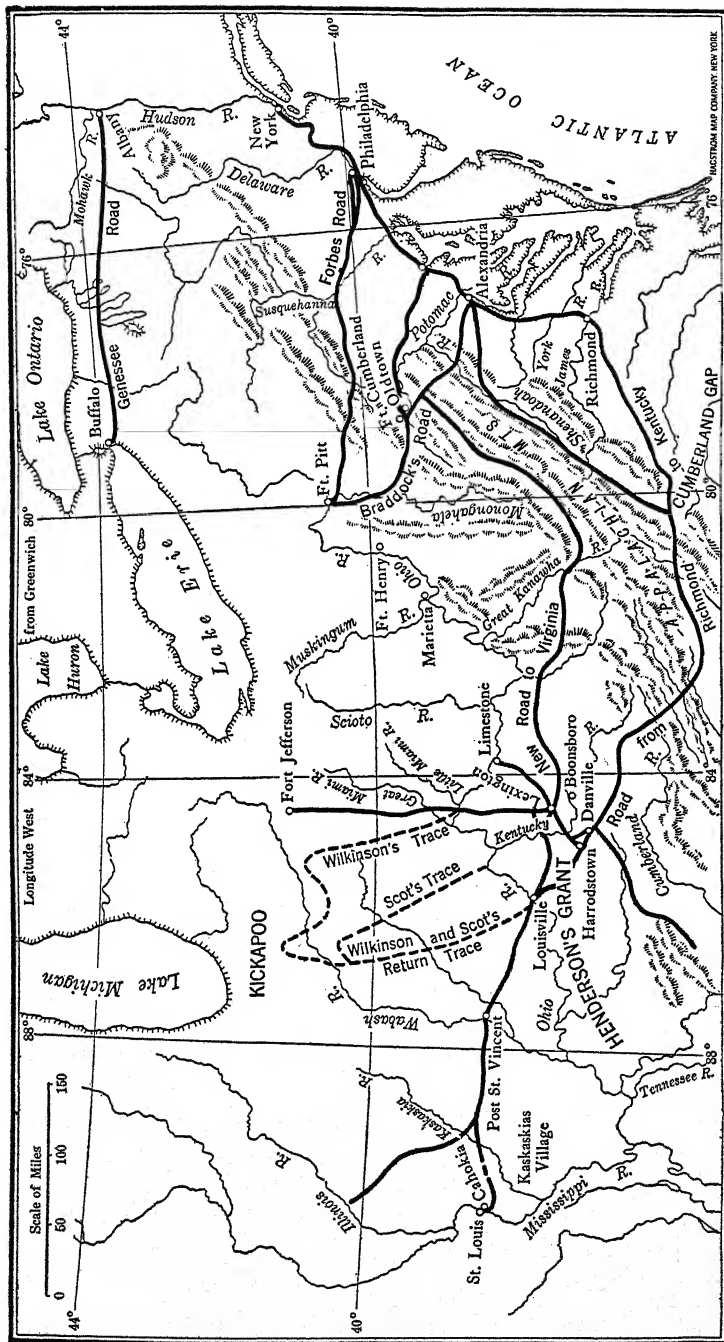
for special cases until 1830 when a general law was enacted, largely owing to the insistence of Senator Thomas H. Benton; this was continued each year until superseded by the permanent law of 1841. With the reduction of the minimum tract to eighty acres (in 1820) and to forty acres (in 1832) bona fide small settlers became a large class. The policy of disposing of the public lands primarily for homes had now been definitely established.

Land speculation.—The price of the public lands had been fixed by the act of 1820 at \$1.25 an acre, but as the westward movement proceeded and the demand grew greater, their market value became higher than the government price. Due to this fact, and also to the inflated condition of the currency, and to the loose banking methods then prevailing, there occurred in the early thirties an outburst of land speculation which has seldom been equalled in the United States. Western lands had been steadily appreciating in value for some years, and as credit and money became easier under the speculative fever of the time, they seemed a favorable object of investment to those who were seeking an easy and rapid increase of wealth. Paper villages were laid out, lands were sold at greatly enhanced prices, often fifty times their original cost, and speculation was fanned to a fever heat.

The sales of public lands swelled rapidly, amounting to 3,856,278 acres for the year 1833, and to the enormous figure of 20,074,871 acres for 1836. The sales of 1834-36, some 40,000,000 acres, exceeded the total of all that had been sold before. Nor was the speculation confined to western lands; owing to the extension of cotton culture due to the increasing demand for, and the consequent advance in the price of, cotton—from a maximum of 13½ cents a pound in 1833 to 20 cents in 1835—the value of southern plantations and city real estate rose enormously. The coal lands of Pennsylvania and the manufacturing cities of the East felt a similar impetus. Thus the assessed value of real estate in New York City rose from \$143,732,425 in 1835 to \$233,742,303 in 1836, and in Mobile from \$4,000,000 in 1834 to \$27,000,000 in 1837. After the panic of 1837 these prices fell even more rapidly.

In addition to its use for purposes of settlement, the public domain of the United States was also being employed to encourage internal improvements, for educational purposes, and in direct gifts to individuals and states. By the ordinance of 1785 it was provided that one thirty-sixth of the public lands should be reserved for the support of the common schools, and since 1848 one eighteenth has been so reserved in all states entering the Union after that date. Beginning with 1841, the lands were recklessly alienated by Congress; during the period 1841-60, 65,701,312 acres were granted to individuals; 105,131,877 acres were granted to states for purposes other than internal improvements, of which the largest single gift was that in 1849 of all the "swamp and overflowed lands" within the limits of any state; and 29,820,337 acres were granted to states and corporations for internal improvements. Of a total of 269,406,415 acres disposed of during this twenty-year period, only 68,752,889 acres were sold, the rest being generously—or improvidently—given away by Congress. Whatever one's views may be as to the wisdom of this disposition of the public domain, one must certainly stand aghast at its recklessness.

Effects of cheap land.—It is almost impossible to exaggerate the influence which the vast western expanse of cheap land has had upon the economic history of the American people. In the latter days of the Confederation and the early days of the Republic it bound together by economic interests the states at a time when they otherwise might have drifted apart. Later it afforded an outlet for a growing population, which, instead of becoming denser, spent its force in taking up new territory. The problem of over-population—that boggy of the early nineteenth century in England—had no meaning in a country where an increase of hands was the greatest need. Unemployment, the standard of living, and the rate of wages were improved by the existence of cheap land of the West, while the problem of immigration was mainly that of inducing foreigners to come to our shores. This abundance of land greatly simplified economic and social problems at the time—though it later



[From Gilbert Finlay's *A Topographical Description of the Western Territory of the United States* (London, 1792)]

ROADS AND TRAILS INTO THE WESTERN TERRITORY

created others—and acted as a safety-valve in times of depression as long as it remained reasonably accessible.

Routes to the West.—This western country was reached from the older States by four main routes which nature had created. To the south the oldest route, first blazed by Daniel Boone in 1769, led from Alexandria to Richmond and thence through the Cumberland Gap into the Kentucky country. A second route ran from Alexandria over the mountains to Boonesboro. By these routes the first westward advance had taken place. After the Northwest Territory was opened up the routes through the middle region became more popular; two roads led from Philadelphia to Pittsburgh, one by way of York and Gettysburg and the other through Lancaster and Harrisburg. Once arrived at Pittsburgh the Ohio River offered an easy journey into the western country. The emigrant either engaged passage on some form of river craft, or, constructing a flatboat or raft, placed his family and belongings thereon and floated down the stream to his destination. The latter method was largely superseded by the steamboat after its general introduction on western waters, though the expense of this quicker method closed it to many of the poorer settlers. To the north the Genesee road, beginning at Albany, ran west to Buffalo on Lake Erie across the most level route, though the last to be opened because of Indian resistance. The two last routes were given serious competition, if not superseded, by the opening of the National Road in 1817 and of the Erie Canal in 1825.

The routes which led to the West were traversed by an ever-increasing tide of settlers from the East. "Old America seems to be breaking up and moving westward," wrote the English traveler Birkbeck⁴ in 1817, describing a journey on the National Pike. "We are seldom out of sight, as we travel on this grand track towards the Ohio, of family groups, behind and before us. . . A small waggon (so light that you might almost carry it, yet strong enough to bear a good load of bedding, utensils and provisions, and a swarm of young citizens—and to sustain marvellous shocks in its

⁴ M. Birkbeck, *Notes on a Journey from Virginia to Illinois* (London, 1818), 25-26.

passage over these rocky heights) with two small horses ; sometimes a cow or two, comprises their all ; excepting a little store of hard-earned cash for the land office of the district ; where they may obtain a title for as many acres as they possess half-dollars, being one-fourth of the purchase-money. The waggon has a tilt, or cover, made of a sheet, or perhaps a blanket. . . A cart and single horse frequently affords the means of transfer, sometimes a horse and a pack-saddle. Often the back of the poor pilgrim bears all his effects, and his wife follows, naked-footed, bending under the hopes of the family."

The early movement of population took the form of a gigantic triangular wedge with its base along the Appalachian mountains and the two sides formed roughly by the Ohio and the Tennessee rivers ; the point gradually pushed forward until it touched the Mississippi River when it flattened out, part of the subsequent migration moving toward the northwest and the other part toward the southwest. Each of those movements took its own distinctive course and showed different characteristics.

The settlement of the Northwest.—As soon as the Ordinance of 1787 was passed, the terms of sale between the United States and Manasseh Cutler, an agent for the Ohio Company, were concluded. This represented a group of New England men, two hundred and eighty-five of them being officers of the Continental army, who had accumulated a mass of loan office certificates and other evidences of government debt, with which they bought 1,500,000 acres of land for \$1,000,000. But as the certificates of debt were worth only about twelve cents on the dollar in specie, the specie cost of the land was between eight and nine cents an acre. Another 3,500,000 acres went to the Scioto Company, a speculation in which some of the leading men in Congress were involved ; and still another huge tract of 2,000,000 acres was purchased by John Cleve Symmes for the Miami Company, which was composed of men from the middle states. Settlement of these tracts began at once, the town of Marietta being established by the Ohio Company, and that of Cincinnati by the Miami Company. Of the former Washington wrote, "No colony in America was ever settled

under such favorable auspices as that which has just commenced at the Muskingum."

The success of Cutler and Symmes in attracting emigrants from the East, to which glowing accounts of soils and vegetation were sent back, was extraordinary, and emigration to the West now set in on a large scale; more than nine hundred boats were reported as floating down the Ohio during the latter part of 1787, carrying about 18,000 persons, 12,000 horses, cattle and sheep, and 650 wagons. In 1790 the Virginia Military District began to be occupied by Virginians, and the Scioto Company lured a group of unfortunate French settlers to their land, where they founded the town of Gallipolis. Four years later Moses Cleaveland, agent of the Connecticut Land Company, bought a considerable part of the Western Reserve, which Connecticut had retained when ceding her western claims, and led a colony to the site of the present city of Cleveland. By 1800 the population of Ohio Territory was 55,000, and three years later it passed the 60,000 mark, thus permitting Ohio to enter the Union as the first state to be carved out of the Northwest Territory.

The causes of this early westward movement were primarily economic, and some of them may be enumerated as follows:

(1) The hard times which prevailed during the period of depression after the conclusion of the Revolution in 1784 and 1785 sent many people west in an effort to better their conditions.

(2) Debtors sought this opportunity to escape the payment of debts incurred during the paper money régime, or perhaps to escape imprisonment for these debts.

(3) Many of the Revolutionary soldiers who received land scrip saw no way to utilize it other than by exchanging it for the land itself. There was thus a pressure upon this group, and especially upon those who could not easily regain their industrial footing in the East, to try their fortunes in the West.

(4) The movement was promoted by land speculators, especially the great land companies which have been described.

(5) The reduction in price of the public lands made it possible for men of small means to purchase farms.

(6) The extinction of Indian titles between 1812 and 1830 and the movement of the Indians themselves from the lands east of the Mississippi opened up new territory to settlement.

(7) And finally the improvement of transportation through the construction of roads, the advent of the steamboat on the western rivers, the building of canals, and lastly of railroads greatly facilitated the movement.

Settlement of the Southwest.—The first migration beyond the Allegheny Mountains was that into Kentucky and Tennessee, and was chiefly of small yeomen farmers from Virginia. The real movement westward south of the Ohio did not take place until after the invention of the cotton gin and the spread of cotton culture. The apparently insatiable demand for this staple led to the opening up of land suitable to its growth and to its rapid settlement. But this movement of population was very different from that which had taken place in the North. When the Southwest Territory was organized in 1790, all the provisions of the Ordinance of 1787 were made to apply to it by Congress, except the prohibition of slavery. Consequently when the march westward began to the cotton lands of the Piedmont region and to Alabama, Mississippi, and Missouri, most of the planters took their slaves with them. "In this newly developing cotton belt," writes Phillips,⁵ "a pell-mell régime prevailed. In a scrambling scattered mass of many sorts of people, planters, slaves, farmers, poor whites, and frontiersmen nearly all were concerned with getting cotton lands."

In the competition which took place among these different groups the planters with their slaves gradually displaced the others; the frontiersmen moved on to the ever receding frontier, and the small farmers were pushed on to the pine barrens or back into the hills where the clay soil was not suited to the cultivation of cotton. The economy of these pioneer farmers was similar to that of the colonists and of their contemporaries in the Northwest. Many of them,

⁵ U. B. Phillips, "Plantation and Frontier," in *A Documentary History of American Industrial Society* (Cleveland, 1910), I, 85.

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however, moved into the free soil country north of the Ohio, or crossed the Mississippi to found new states. The westward advance into this new cotton country has been described by Turner⁶ as follows: "By the side of the picture of the advance of the pioneer farmer, bearing his household goods in his canvas-covered wagon to his new home across the Ohio, must therefore be placed the picture of the southern planter crossing through the forests of western Georgia, Alabama, and Mississippi, or passing over the free state of Illinois to the Missouri Valley, in his family carriage, with servants, packs of hunting dogs, and a train of slaves, their nightly campfires lighting up the wilderness where so recently the Indian hunter had held possession."

Much of the land in the Southwest, especially in Georgia and the Carolinas, was sold to speculative land companies before those states had ceded their western claims to the United States, so that it was held in much larger tracts than that north of the Ohio. The lands were usually sold to the highest bidders, and this gave an opportunity for the richer slave-owning planters to obtain the best cotton lands, for they were generally able to outbid the small yeomen farmers. As in the North, the movement of the population westward followed the lines of latitude with curious exactness. The differences between North and South tended to become accentuated still further as slavery became more firmly entrenched, and the territorial division of labor and therefore the sectional divergence became more pronounced.

The Louisiana purchase.—It was inevitable that an attempt would be made by some of the more adventurous pioneers to establish themselves in the lands beyond the Mississippi River after the older sections began to be measurably well occupied. By the beginning of the nineteenth century there were probably over five thousand Americans in the Louisiana territory, most of whom were engaged in the fur trade. The purchase by the United States of the Louisiana territory happily prevented this western advance from embroiling us with any foreign power, and permitted it to take place in an orderly manner, disturbed only by conflicts with the Indian claimants.

⁶ F. J. Turner, *Rise of the New West* (New York, 1906), p. 92.

In November, 1802, the inhabitants of the western country were alarmed by the announcement of the Spanish authorities at New Orleans that the right of deposit had been withdrawn. This at once put an end to the large and growing flatboat trade down the Mississippi, and stirred the western farmers to the point of threatening war. Jefferson appreciated the dangers of the situation and dispatched James Monroe to France to negotiate for the purchase of the island of New Orleans and West Florida. In 1800 Spain had ceded Louisiana to France but the cession had been kept a secret and France had not begun the administration of the province.

Suddenly Napoleon, who had hoped to conquer Santo Domingo and to establish a colonial empire in Louisiana, meeting defeat in the former project, decided to sell all the French possessions in America. He realized that Louisiana was of no value without Santo Domingo; that he could not hold the territory if the United States should go to war over it, as seemed likely; that a French colonial empire across the Mississippi might drive the United States into an alliance with Great Britain; and that any money he could obtain from its sale would assist him in his war against Great Britain, which had just been renewed.⁷ Monroe and Robert R. Livingston, our minister to France, were astonished to have the whole Louisiana Territory offered them by Napoleon, but they did not hesitate to exceed their instructions and bought it for \$15,000,000. By this act there was added to the territory of the United States an area containing 827,987 square miles, more than doubling the size of the United States.

Western advance beyond the Mississippi.—The resources of the territory thus unexpectedly acquired were totally unknown and even the extent was in doubt. An exploring expedition was authorized by Congress in 1803, and in the following year Captains Meriwether Lewis and William Clark set out on their famous enterprise with a well-trained party of forty-five men. Starting from near St. Louis, they ascended the Missouri River some 1600 miles to the site of the present Bismarck, North Dakota, where

⁷ E. Channing, *The Jeffersonian System, 1801-1811* (New York, 1906), 67.

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they spent the winter. In the spring they pushed forward to the Rocky Mountains, which they managed to cross, and then floated in rude canoes down the Columbia to the Pacific, completing a journey of 4134 miles. The following year they returned to St. Louis. Zebulon M. Pike ascended the Mississippi to its source and in 1805 undertook to explore the Red River, the boundary between the newly acquired Louisiana and the Spanish territory; in this expedition he reached the Rocky Mountains at the peak which bears his name. Other men continued the work of exploration, and gradually made known the topography, climate, and resources of the new territory.

How abysmal was the ignorance concerning the western country is easily shown by two illustrations. In the first American edition of Guthrie's *New System of Modern Geography* (Philadelphia, 1795) appeared the following statement: "In North America, which is composed chiefly of gentle ascents, or level plains, we know of no considerable mountains, except those towards the pole, and that long ridge which runs through the United States, and which is called the Appalachian or Alleghany Mountains." Sixty-four years later Professor Joseph Henry stated in the *American Agriculturist*⁸ that "a vast extent of country, almost one half of the width of the American Continent, was quite unfit for tillage." This reference was to the myth of the "Great American Desert," the semi-arid land which lay west of the ninety-fifth meridian, and which persisted for still another decade or so before it was finally dissolved.

In spite of the enormous area of this new territory—more than twice as large as the thirteen original States—a movement began within two decades for the further extension of the boundaries of the United States to the Pacific, and by the middle of the century had added to our national domain Texas, California, and Oregon. In 1821 Moses Austin, a Connecticut Yankee, obtained from the government of Mexico a huge grant of land in the province of Texas on which to establish three hundred families; upon his death his son, Stephen F. Austin, carried out the project. Similar grants to other colonists parceled out a large part of Texas

⁸ Quoted by A. B. Hulbert, *Soil* (New Haven, 1930), p. 204.

among a stream of adventurers until by 1830 the province contained about 20,000 settlers as against some 3000 Mexicans of Spanish origin. Yankee ships had in the meantime found their way to Monterey, in the present state of California, where they developed a lucrative hide trade. The profits from this trade led to efforts to find a shorter overland route instead of the long and dangerous voyage by way of Cape Horn, and in 1829 Ewing Young opened a trade route from Santa Fé. Pioneer farmers followed the traders and Americans began to settle in the San Joaquin Valley and other favored spots in California.

Acquisition of Texas.—Seeing too late the dangers of the alien invasion the Mexican government tried to prevent it, forbidding the importation of slaves, ordering the expulsion of squatters, and even tentatively abrogating the land contracts which had not been fulfilled. Against these measures the American settlers, led by Sam Houston, revolted and in 1836 proclaimed the independence of Texas. The Texans soon after asked for admission to the American Union as a state. The slavery interests favored their admission, but the North objected, until the speculators in Texas scrip and bonds won over enough votes to bring Texas into the Union in 1845.

A quarrel with Mexico soon occurred over boundary questions and war broke out in 1846. The treaty of 1848, which ended it, gave to the United States the area contained within the present states of Nevada, California, Utah, Arizona, and parts of Colorado and Wyoming—a domain greater than France and Germany together. Mexico received fifteen million dollars in cash and the cancellation of certain American claims for damages. Five years later these cessions were rounded out by the Gadsden purchase of a strip of land along the southern border of Arizona and New Mexico for ten million dollars, in order to obtain a favorable right of way for a transcontinental railroad.

Oregon.—Meanwhile the movement of frontier imperialism had reached Oregon. Shortly after the return of Lewis and Clark from their memorable journey, John Jacob Astor, a wealthy New York merchant, founded in 1811 the fur-trading post of Astoria on the Columbia River, but was

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forced by the British fur-traders to abandon it. Later Marcus Whitman carried on missionary work among the Indians in the Willamette Valley. Settlers soon began to follow and by 1846 there were 10,000 Americans in Oregon. In the campaign of 1844 the Democrats adopted the slogan of "Fifty-four forty or fight," and demanded all the territory up to that line of latitude.

The northern boundary of California had been fixed at 42° and Russian claims had been surrendered south of $54^{\circ} 40'$, but the Oregon country between these two parallels remained in dispute, being claimed by both Great Britain and the United States. A compromise was made with Great Britain by which the boundary between the United States and Canada was fixed at the forty-ninth parallel, and the continental boundaries of the country were now finally determined. The economic forces of the desire of settlers for more land, the profits of continental trade, and of the fur trade along the Pacific coast, the pressure of the slave system for additional room in which to expand, and the refusal of a virile people to be stopped in their westward expansion short of the ocean—all had combined to bring these great areas within the jurisdiction of the United States.

Movement of the population.—There was a rapid settlement of the Ohio and Mississippi valleys for two decades after the Louisiana purchase, while the period 1820–40 saw the filling up of the southwestern cotton states. To the period from 1840 to 1860 belonged the settlement of the upper Mississippi Valley, and also the wild rush to California. A contemporary traveler wrote of the movement as follows: "De Tocqueville (in 1830) calculated the rate of western progress at nineteen miles per annum. At this moment (1856) it must be reckoned by hundreds of miles. . . I believe there is nothing in history to compare with this seven-league progress of civilization."⁹

The westward movement took place in a series of waves, the rate of movement being a fluctuating one, retarded or hastened by the economic condition of the people: in good times it was slow; in bad times rapid. During the period of depression following the Revolution, the migration from

⁹ James Stirling, *Letters from the Slave States* (London, 1857), 14.

the Atlantic seaboard was rapid. It declined during the good times of the Napoleonic Wars when our farmers and mechanics, merchants and sailors found employment and rich profits in supplying the needs of the European belligerents and their colonies. Such movement as took place to the West occurred either in Kentucky and Tennessee which benefited greatly from the temporary opening of the Mississippi to trade by the Spanish treaty of 1796, or in central New York where the settlers in the valleys of the Mohawk and the Genesee still maintained communication with the Atlantic seaboard and shared in its prosperity.

For a time the population in the Northwest Territory almost ceased to grow, but the Peace of Amiens in 1802 and the decline of our foreign trade sent another wave of population into Ohio which brought it into the Union. The movement westward was checked again by the renewal of European hostilities in 1803, but with the embargo and the War of 1812, and the consequent bad times on the seaboard, the emigration to the West swelled to still larger proportions. The growth of the western population was sufficient to bring Indiana into the Union in 1816 and Illinois in 1818.

In spite of the size of this movement, prior to 1817 it had little economic significance, and was certainly not a dominating influence in the life of the nation, as foreign trade had previously been. The western settlements, when pushed so far as to be beyond communication with the older regions, were true pioneer settlements, where rude and primitive conditions prevailed—"backwoods" settlements they were called in derision. Here the people lived isolated lives, dependent upon their own exertions for almost everything they consumed and unable to market their surplus produce except a few cattle, hogs, and horses which could be driven overland to eastern markets and a few commodities like furs which could stand the expense of a long land carriage. The only other outlet which their grain, meat, lumber, and other crude products could find was down the Mississippi, and this was a dangerous and expensive journey until the steamboat was made practical for western waters in 1817. Until this momentous event the western settle-

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ments were small self-contained economic units, the population was dispersed, and the towns were small. The population spread out, but this did not result in territorial division of labor or in an expansion of internal trade.

A third wave of migration occurred after the panic of 1819, which swelled the population in the newer states at an astonishing rate, from an increase of 81 per cent in Mississippi to 185 per cent in Illinois. The panic of 1837 and the long depression which followed sent still a fourth wave into the unoccupied lands of the middle west. The long trip across the plains to California after the discovery there of gold must be put in a different category from these earlier movements, which represented attempts to escape from hard conditions.

This process of settlement, carried on as it was by thousands of individuals and families, was spasmodic and irregular, but its general features have been well described by a contemporary writer:¹⁰

"Generally, in all the western settlements, three classes, like the waves of the ocean, have rolled one after the other. First comes the pioneer, who depends for the subsistence of his family chiefly upon the natural growth of vegetation, and the proceeds of hunting. His implements of agriculture are rude, chiefly of his own make, and his efforts directed mainly to a crop of corn and a 'truck patch.' . . . A log cabin, and occasionally a stable and corn-crib, and a field of a dozen acres, the timber girdled or 'deadened,' and fenced, are enough for his occupancy. . . . The pre-emption law enables him to dispose of his cabin and corn-field to the next class of emigrants; and, to employ his own figures, he . . . 'clears out for the New Purchase' . . . to work the same process over.

"The next class of emigrants purchase the lands, add field to field, clear out the roads, throw rough bridges over the streams, put up hewn log houses with glass windows and brick or stone chimneys, occasionally plant orchards, build mills, school-houses, court-houses, etc., and exhibit the picture and forms of plain, frugal, civilized life.

"Another wave rolls on. The men of capital and enter-

¹⁰ J. M. Peck, *A New Guide for Emigrants to the West* (Boston, 1837), 119-121.

prise come. The settler is ready to sell out and take advantage of the rise in property, push farther into the interior and become himself a man of capital and enterprise in turn. The small village rises to a spacious town or city ; substantial edifices of brick, extensive fields, orchards, gardens, colleges, and churches are seen.

"A portion of the first two classes remain stationary amidst the general movement, improve their habits and condition, and rise in the scale of society."

Stages in development.—The three types just mentioned represent three stages in the development of the West, and as many steps in the process of pioneering. The early pioneers who moved out to the frontier just after the Revolution did so under very different conditions than were present in the later movement. Without improved means of transportation they were forced to make their way on foot, on horseback, or by wagon, over roads which were but slightly improved trails. The settlement of the West may fairly be regarded, as Callender suggests, as a great example of colonization, for the land journey from, say, Connecticut to Ohio was more difficult and expensive to make than the ocean journey from Europe to New England. Arrived at his destination, the pioneer was cut off from communication with his old home, and suffered all the inconveniences and hardships of settlement in a new country. With little capital, even in the form of adequate agricultural implements, with no markets—certainly no convenient ones—for the exchange of his surplus products, he was thrown back entirely upon his own resources. Under these conditions life was hard and progress was slow.

When the second generation pushed their way along the track thus marked out for them, they had the advantage of improved means of transportation—turnpikes and canals, and later still the railroad. The West was thus made at once more accessible for settlers and they were able more easily to reach markets, which, moreover, had now grown up and were ready to purchase their surplus products. So important were these factors that one observer called the railroad the "soul of western civilization." The very facility of movement brought evils of its own and induced a migra-

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tory spirit among the people, which made them ever ready to move on.

The last stage in western progress was reached when the men of capital came. They were the permanent settlers and introduced lasting improvements: they built durable houses, established manufactories, and developed the resources of the country. But by the time this stage in development was reached the frontier had been pushed farther on, and the work of real pioneering was being done by other hands.

South of the Ohio a corresponding movement was taking place, though different in character. The fur trader, the backwoodsman, and the small pioneer farmer were similar to their neighbors in the north, but the men of capital coming last were the slave-holders, whose plantations gradually took the place of the small pioneer farms in the richer cotton lands of the South.

The result of this movement was a great increase in the population of the western states. That of the northwestern group, for example—Ohio, Indiana, Illinois, Michigan, Wisconsin, and Iowa—increased from 50,240 in 1800 to 792,719 in 1820, to 2,967,840 in 1840, and to 7,603,664 in 1860. The southwestern group—Kentucky, Tennessee, Alabama, Mississippi, and Louisiana—showed a greater expansion in the first two decades, but fell behind after 1840, growing from 335,407 in 1800 to 1,343,896 in 1820, to 2,927,926 in 1840, and to 4,728,993 in 1860.

"We are great," said Calhoun in 1817, "and rapidly—I was about to say fearfully—growing." So great indeed had this westward migration become by 1817 that its effects were already apparent in the East, from which most of the settlers came. In New York the increase in population between 1810 and 1816 was only 3600, which was much less than the gain in the number of immigrants during that period. The West, on the other hand, developed rapidly; but there was no growth of cities. The population simply spread out over a wider territory in a thin layer instead of concentrating in compact masses. Thus between 1820 and 1840, while the population almost doubled, the density of the settled area increased by only about two individuals to the square mile. Great as was this movement, however, the

real significance lay not so much in the increase in population as in the opening up of the West.

But the westward movement also involved a shift of wealth from the seaboard states to the Mississippi Valley. It is difficult to estimate the value of the human capital, which was transferred, though it must be estimated at many millions of dollars if the valuation of \$1000 placed upon an adult immigrant by the United States immigration service be adopted. But each emigrant also carried with him a certain amount of cash and of other wealth which in the course of time represented an enormous sum. This transfer was fortunately so gradual that it never impoverished the East, though it greatly aided in the development of the West.

The process of settlement.—The location of the future home was frequently decided in advance by the purchase of a quarter section, or the land might be bought from the nearest land office after inspection, or the settler might simply "squat" on a desirable tract. In choosing this the color of soils, based on experience gained from many types, served as a dependable test of good land; black soils were generally fertile, and next to those came red. Vegetation, especially trees, produced by soils was, however, a truer test than color; the nut-bearing trees were safe guides to good land, while cypress, scrub oak, etc., warned of poor soils.¹¹ In any case the site of the cabin would be determined by the presence of wood and of good springs of drinking water. The lack of these two factors prevented for a number of years the settlement of the prairie region in Indiana and Illinois, though the richer river bottoms gave rise to malaria and ague. Illness and mortality, both of which showed a high rate, were probably due as much to exposure to hardships, lack of a comfortable habitation, change of food, monotonous diet, and overwork, as to unhealthful location.

Having selected the site for his cabin, the pioneer cleared a piece of ground amid the forest and with the aid of his neighbors erected a log cabin. He next girdled the trees upon a tract for the next year's corn crop and cleared out the underbrush. The first crop was planted among the

¹¹ A. B. Hulbert, *Soil* (New Haven, 1930), pp. 70-72.

deadened trees. These were then cut down and burned, being brought together into huge piles by a "log-rolling," by the united efforts of the neighbors; if near enough to market the pot-ashes could be sold for enough to cover the costs of clearing the land. With firewood at fifty cents a cord it did not pay to save the trees for fuel, especially since the ashes were a valuable fertilizer which would produce an increase in the next year's crop worth more than the value of the cord wood in the market. Some of the logs were split into rails and used to make the wasteful "worm-fences," by which four forty-acre fields in a quarter section would be fenced off.¹² Such a farm of 160 acres, fenced and partly plowed, with cabin and stables, would cost from \$400 to \$500.

The whole process of pioneering, especially in the early days before the introduction of the steamboat and railroad, and even afterwards in the remoter districts, was distinctly reminiscent of the colonial methods. Tools had improved, markets were nearer, and knowledge had increased, but the processes, where man confronted elemental nature, were the same as in the original colonies.

The men who carried on this work of pioneering were for the most part of American stock, but newly arrived immigrants also had a large share in settling the Middle West. The Germans showed themselves best suited to the task, followed by the Scotch-Irish and the English; those least well fitted for the laborious work of transforming the wilderness into productive farms were the French.

Effects of the westward movement.—The settlement of the West had profound effects upon the economic, political, and social development of the whole country. Some of the economic problems have already been noted and others will be discussed in subsequent chapters: these were the draining of the population from the East, with its resulting effect in keeping wages at a high level, the demand for better transportation between the sections, and the growing territorial division of labor among the South, the West, and the East, with its resulting sectionalism.

¹² The history of a pioneer farmer in the Middle West at this period is well illustrated by the life of Abraham Lincoln.

Important as these were, the *political* effects were more immediate and far-reaching. The aggressive and boisterous West introduced into American party politics new methods and new aims. The academic democracy of Jefferson was translated into leveling fact under Jackson, and property qualifications for voting and holding office were soon swept away. The new democracy felt the impact of the frontier, whose attitudes helped to shape national policy and legislation. The important issues of the time—internal improvements, the public lands, banking, Indian affairs, etc.—were largely determined by western interests.

Important governmental problems were also pressed to the fore by this movement, among which six major ones may be enumerated: (1) the problem of a government for the new country was most happily solved by the introduction of the territorial form of government, which gave to the new settlements local self-government, with a promise of admission to the Union when populous enough, thus avoiding the political dangers and unrest of dependent colonies. (2) The commercial relations between the older states and the newer settlements never presented any difficulties because of the adoption of general free trade, as prescribed by the Constitution. (3) Boundary disputes, which often assumed serious proportions in the older states, were avoided by reason of the disposition of the new lands by the federal government. (4) Conflicts with the native population, inevitable in many cases, were minimized by a policy of quieting Indian titles to the land through purchase and treaty. When the pressure for coveted lands still held by their original possessors became too strong to resist, the Indian claimants were moved to new grants. (5) The disposal of the public domain to actual settlers not merely removed this question from the arena of politics, but provided a wise economic use of the land. (6) The guarantee of the free navigation of all navigable waters gave a statesmanlike solution to a problem which threatened at one time to disrupt the newly formed Union; later, it prevented the establishment of monopolies which would have hampered greatly the free development of internal commerce.

Finally, the westward movement had pronounced *social*

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effects. Inevitably it left its impress on the character and ambitions of the people. "A bold race," said Woodrow Wilson, "has derived inspiration from the size, the difficulty, the danger of the task. Expansion has meant nationalization; nationalization has meant strength and elevation of view." The national character was affected by the individualism, the passion for equality, and the love of freedom, the initiative, practicality, and democracy of the western people, and today shows these traits in marked degree. The migratoriness and wide dispersion of the people were less desirable features of a movement which on the whole bred qualities of strength and self-reliance.

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CHAPTER XII

AGRICULTURE

THE great colonizing movement which carried the frontier of settlement across the Alleghenies and on to the western plains had profound effects upon agriculture. It continued the exploitative methods which had characterized colonial agriculture, but it also introduced new conditions and new methods. The first half of the nineteenth century was above all a period of *transition*, when rapid changes were taking place, both in the new West and in the older sections of the country. It is therefore impossible to give a picture of agriculture which is typical of the whole country at any time, or even of any one section for the whole period. A truer view will be obtained if the changes are traced in turn in the different regions. Since the significant feature of this period was the development of prairie farming, it will be well to begin with the West.

Western agriculture.—West of the Appalachian mountain chain stretches the Prairie region, which extends from the western slope of these mountains to the Great Plains, and from the Great Lakes and Canadian border to the Gulf Plain on the south. It thus embraces all of the most fertile part of the Mississippi basin. Over most of this region was spread a thick fertile soil, free from stones and remarkably level. Heavily wooded plateaus sloped gently from the mountains to the level plain, and in the river valleys the forest growth was also thick. Among these forested areas were treeless plains or natural clearings and west of Indiana stretched the open prairie. Until about 1830 the pioneers settled only in the wooded river valleys; settlement did not reach the prairie and prairie farming did not develop until after that date. The early settlers who crossed the Alleghenies consequently engaged in the same type of woodland agriculture as that which had been followed by the colonists

in the seventeenth and eighteenth centuries along the Atlantic coast.

Pioneering.—It is scarcely necessary to describe again the pioneer processes of clearing the land by girdling, grubbing, logrolling, and burning the trees, the construction of log houses, and the planting of corn and vegetables amid the standing trunks of the deadened trees. Here the pioneer repeated the agricultural experiences of the early settlements, but with less fumbling and experimentation. A well understood technique had been developed along these lines, and, in spite of the hard work involved, the pioneer settler sought out the wooded tracts rather than the open spaces. Wood was essential for the construction of his house, for fuel, for fencing, and for making various farm implements and household utensils. "Not to speak of wooden houses," wrote Hall,¹ "bridges, and roads—of wood for fuel and fencing—we find it adopted in the west for purposes more anomalous, where wooden pins are substituted for nails, and wells are curbed with hollow logs, where the cabin door, swinging on wooden hinges, is fastened with a wooden latch, and the smoke escapes through a wooden chimney. . . Well may ours be called a wooden country." The presence of a heavy growth of hardwood was moreover regarded as evidence of a good soil, while the absence of timber indicated a poor one. The emigrant evidenced his preference by the proverbial expression that he was going to "strike for the tall timber." The need of water both for drinking purposes and for transportation also dictated the selection of a site in the river valleys, which were always heavily forested. All these reasons led the pioneers who crossed the mountains and settled in the west to prefer the woodland and to avoid the clearings except for pasturage. This explains in part the long delay in occupying the open prairie region.

The early waves of settlement, as they pushed through western New York and Pennsylvania to Ohio, Indiana, and Illinois, simply reproduced the typical frontier conditions of colonial days, with their primitive exploitative agriculture, lack of markets, rough life, and isolation. Since he was poor the typical frontiersman had little capital, and since

¹ James Hall, *Statistics of the West* (Cincinnati, 1836), 101.

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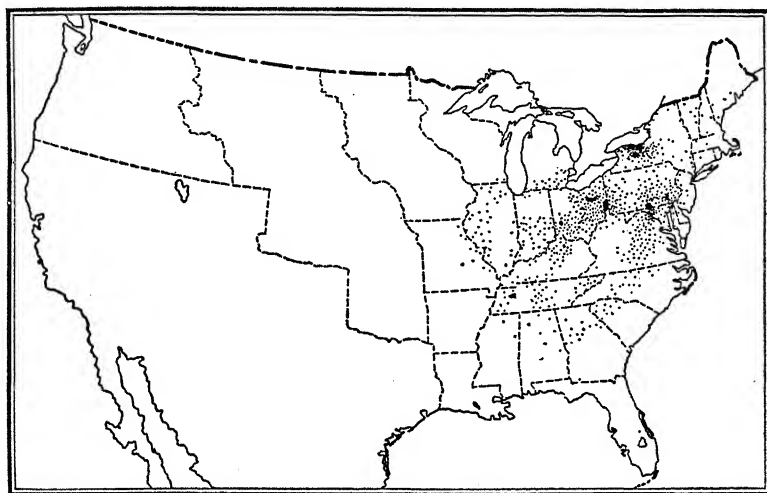
he had outdistanced the general movement of population he had few neighbors and only distant markets, if any. Another characteristic of this frontier period was the self-sufficiency of the typical pioneer farm. Without communication to convenient or profitable markets, the needs of the farm family determined the crops to be planted and the cattle to be raised. Farm production was limited by farm demand. There was little trade as yet, though a few products like whisky or cattle and hogs were sent to market, and such articles as salt and iron were obtained in exchange. It is difficult to say just when this pioneer period came to an end in any locality, but by 1830 frontier conditions were no longer typical of Ohio, and by 1850 they had passed beyond Indiana, Illinois, and southern Michigan.

Prairie farming.—By 1840 most of the desirable wood land had been taken up and there remained only a choice between going farther west or breaking away from the timber. About the same time the building of the Erie Canal by New York and of other canals by the western states opened up the interior sections away from the rivers and gave access to the prairie region, and thus afforded convenient outlets to market for the produce of these hitherto inaccessible regions. Consequently, settlement now began on the open prairies. On these treeless plains a new type of farming was developed, which was in sharp contrast with the pioneering in the wooded regions. "Here," wrote an English traveler, Stirling, "the pioneer is not the backwoodsman with his axe, but the 'prairie breaker' with his team and plough." Although there were no trees to cut down there was a sod to break which was so tough that it yielded but slowly to the plow. Three, four, or even six yoke of oxen were required to draw the huge plow and turn the stubborn soil. The cost of breaking, if hired, was greater than that of the land itself,² and if done by the settler was slow and laborious. Two or three seasons were necessary to decompose the sod thoroughly and render the soil loose enough to be turned by an ordinary plow, but even after the first plowing it was possible to plant seed in slits made in the sod with an ax and from this planting to obtain a crop of twenty to thirty

² Land cost \$1.25 per acre; breaking cost \$1.50 per acre.

bushels of "sod corn" to the acre together with some potatoes.

An important and perplexing problem for the prairie farmer was that of fencing. As settlement was pushed out farther from the wooded districts the cost of wooden fences—which were only one cent per rail near the forests—became prohibitive; to fence forty acres with a rail fence in



[After Bidwell and Falconer]

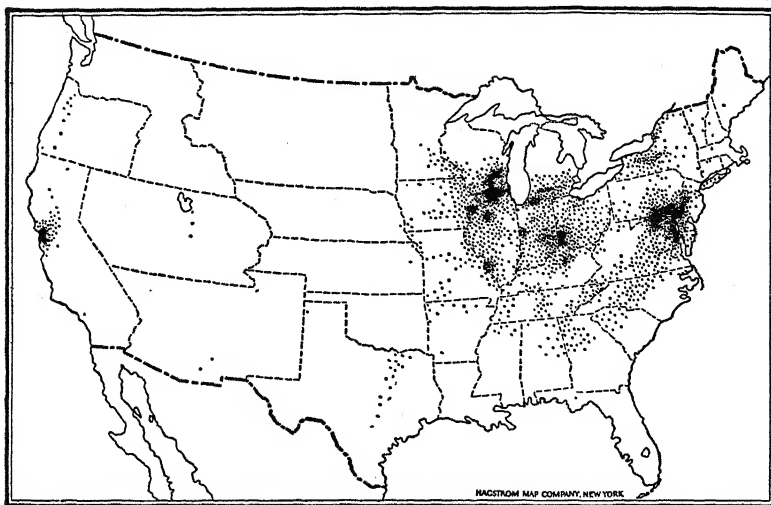
WHEAT, 1839. Each dot represents 100,000 bushels.

1839 cost between \$200 and \$300. Sod, rail, picket, board, hedge, and lastly wire were tried, but all were too expensive except hedge; Professor J. B. Turner of Illinois College found, after many experiments, that osage orange made the best hedge fence and this was widely introduced throughout Illinois. Wire fencing came into use about 1850, but it was poor and expensive; not until strong wire was manufactured in large quantities at a low cost was the fence problem on the prairie farms solved.

Soil exploitation.—The prevailing method of western farming was still soil exploitation. In spite of the criticisms of Europeans and of Easterners prairie farming followed the same practices which had prevailed on the seaboard during the colonial period. Since land was cheap while labor and

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capital were scarce and dear, the most profitable agriculture was that which involved the smallest application of labor and capital per unit of land. This generally meant a one-crop system without fertilization or crop rotation—a process of soil mining. The usual practice of “earth butchery” is well



[After Bidwell and Falconer]

WHEAT, 1859. Each dot represents 100,000 bushels.

described in the following account of farming in Missouri in 1849:³

“Farming here is conducted on the regular skinning system. . . There seems to be a continual struggle with each farmer to have longer strings of fence, bigger fields, and more ground in corn than his neighbor. The result of which struggle, in conjunction with the ease with which land is brought into cultivation in the prairie, convenient to timber, is that most of the farmers in this country *scratch* over a great deal of ground, but *cultivate* none. Instead, however, of endeavoring to extricate themselves from their difficulties in the most reasonable way possible, that of ceasing to enlarge their farms and growing grass seed until they are reduced to a manageable size, the cry is still more

³ Quoted by Bidwell and Falconer, *History of Agriculture in the Northern United States, 1620-1860*, p. 272.

land, more corn. It is corn, corn, corn, nothing but corn. . . Take the state over and I have no idea that one farmer out of fifty has ever hauled a load of manure to his cornfields since he has been in the state. I have doubts, even, whether one in a hundred has ever done it."

The real advance in western farming came after the introduction of labor-saving machines, which were peculiarly adapted for use on the broad, level, and practically stoneless stretches of land in the prairie region. Here was wrought a revolution as upsetting as that produced by the invention of the cotton gin in the South, though it took longer to work out since it affected several crops and was brought about by numerous improvements in many implements.

Southern agriculture.—Meanwhile an economic revolution was occurring in southern agriculture even more profound and far-reaching than prairie farming in the West. It will be remembered that during the colonial period the staple crops in the South had been tobacco in Virginia and Maryland, naval stores and livestock in North Carolina, and rice and indigo in South Carolina. Very little cotton had been grown, owing to the greater profitableness of the other crops, but especially because of the difficulty and expensiveness of cleaning the cotton fiber of seed and impurities. But now the demand for cotton suddenly became great. Beginning about 1760 a remarkable series of inventions, especially in textile manufacturing, had completely revolutionized English industry. These inventions consisted in the application of machinery to spinning and weaving, immensely reducing the cost and increasing the output. As a result there developed in England an urgent and growing demand for textile raw materials, of which cotton proved most suitable. The number of persons engaged in the spinning and weaving of cotton in England increased from 7900 in 1760 to 320,000 in 1787, and only the lack of a plentiful supply of cheap cotton prevented a still greater growth. The cotton from Egypt, India, and the Far East met the need inadequately and an insatiable market existed for additional supplies.

Sea-island or long-staple cotton was introduced from the

Bahamas into the islands and lowlands of Georgia and South Carolina in 1786, and proved well adapted to conditions there, so that its production increased rapidly. Having a long staple to which the seeds adhered loosely it could be cleaned of its seed by a simple roller gin; but the area suitable for growing it was limited, and attention was next directed to the development of the short-staple or upland cotton which was grown on the interior lands. By 1789 the production of both varieties was estimated by Woodbury at 1,000,000 lbs.; in 1790 at 1,500,000 lbs.; and in 1791 at 2,000,000 lbs., practically all of it coming from South Carolina and Georgia. The reason for the small production was the impossibility of cleaning the cotton fiber by hand labor in sufficient quantities. According to Whitney a man could separate the seed by hand from only about one pound of lint of the short-staple variety, or about ten pounds of the sea-island cotton, in a day. If this difficulty could be overcome, a vast market lay open to the American cotton-grower, which would be the more welcome because the tobacco crops were falling off by reason of the exhaustion of the soil, and the production and sale of indigo and naval stores had been adversely affected by the cessation of bounties from Great Britain. The stage was set for a vast expansion; the only obstacle was the difficulty of cleaning the fiber.

Invention of the cotton gin.—In 1792 Eli Whitney was graduated from Yale College and soon after obtained a teaching position in South Carolina. On his way there he became acquainted with Mrs. Greene, the widow of Nathanael Greene, the well-known commander in the South during the Revolution. His experiences can best be told by quoting a letter written by Whitney to his father in 1793:⁴

"I went from New York with the family of the late Major General Greene to Georgia. I went immediately with the family to their plantation about twelve miles from Savannah, with an expectation of spending four or five days and then proceed into Carolina to take the school as I have mentioned in former letters. During this time I heard much

⁴ "Correspondence of Eli Whitney," in *American Historical Review*, III, 99-101. Reprinted in Bogart and Thompson, *Readings*, 226.

said of the extreme difficulty of ginning cotton, that is, separating it from its seeds. There were a number of very respectable gentlemen at Mrs. Greene's, who all agreed that if a machine could be invented which would gin cotton with expedition, it would be a great thing both to the Country and to the inventor. I involuntarily happened to be thinking on the subject and struck out a plan of a Machine in my mind, which I communicated to Miller (who is agent to the executors of General Greene and resides in the family, a man of respectability and property). He was pleased with the plan and said if I would pursue it and try an experiment to see if it would answer, he would bear the whole expense, I should lose nothing but my time, and if I succeeded, we would share the profits. . . In about ten days I made a little model, for which I was offered, if I would give up all right and title to it, a Hundred Guineas (\$511). I concluded to relinquish my school and turn my attention to perfecting the machine. I made one before I came away which required the labor of one man to turn it and with which one man will clean ten times as much cotton as he can in any other way before known, and also cleanse it much better than in the usual mode."

The machine in its first crude form consisted of a cylinder equipped with saw-teeth which pulled the lint through wire ribs, leaving the seeds behind, while a second cylinder, equipped with a brush, removed the lint from the saw-teeth. By this machine three hundred pounds of cotton could be cleaned by one person in a day, an amount which was later increased. Whitney and his partner Miller made the mistake of endeavoring to monopolize the production and sale of the gins, intending to set them up throughout the South and gin cotton for the planters at so much a pound. Within two years they had set up thirty gins in Georgia and South Carolina, but the planters could not wait for such a valuable invention to be supplied so slowly and soon invaded their patents. South Carolina paid them \$50,000 to secure the privilege of the gin for her citizens, and North Carolina about \$12,000, most of which was soon spent in lawsuits defending the patents.

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Increase in cotton production.—The effects of the invention of the cotton gin were instant and far-reaching. Indeed it may safely be said that no other single invention in the history of the United States has so profoundly affected our economic history. Cotton almost immediately became the leading southern crop, and the most valuable single export of the United States. After the invention of the cotton gin, American cotton, which had been dirty and poorly picked up to this time, became a popular and marketable commodity. Cotton culture spread steadily and rapidly throughout the South. So rapid indeed was the development of this new industry that when Jay negotiated a treaty with Great Britain in 1794 he apparently did not know that cotton was being raised for exportation in the United States, and he accordingly included it among the articles not to be exported from the country in American vessels. The Senate, fortunately, did not approve this provision.

The exports of cotton passed tobacco in 1803 and have ever since led all other agricultural exports. Production of cotton was greatly stimulated by the high prices which prevailed for a few years, the price reaching 44 cents a pound in 1799, owing to the increasing demand in England and at home. After this it declined to 19 cents in 1802, at about which point it remained for the next eight years; a decade later it was up to 26 cents again. The stimulus thus given to the extension of cotton culture may be judged when these prices are compared with the estimate of Woodbury that, where land and labor were cheap, 2 cents a pound for cotton in the seed, or 8 cents when cleaned, would pay expenses. As a result of these varied forces, production and export increased by leaps and bounds, as may be seen from the table on the following page.

The first cotton was produced in Georgia and South Carolina, and until 1820 over half the cotton grown came from those two states. With the increase in demand, however, cotton culture spread into Virginia and North Carolina, and across the mountains into Tennessee. When the alluvial soils of Alabama and Mississippi were reached a new impetus was given to the westward movement in the South. By 1850, cotton had taken almost complete possession of

the lower Mississippi Valley, and by 1860 had reached the great central plain of Texas. As the center of cotton production moved westward, so the commercial cities which were built up on the cotton trade shifted and grew. Charleston and Savannah gave place to Memphis, Mobile, and New Orleans as centers of southern trade and wealth, until during the decade 1850-1860 half the cotton crop passed through the port of New Orleans.

AVERAGE ANNUAL PRODUCTION AND EXPORTS OF AMERICAN COTTON, 1790-1860 *

<i>Years</i>	<i>Average Annual Production in the United States POUNDS</i>	<i>Average Annual Exports from the United States POUNDS</i>	<i>Average New York Prices for Middling-Uplands CENTS</i>
1790	1,500,000	.....	14.5
1796-1800	18,200,000	8,993,200	36.3
1806-1810	80,400,000	52,507,400	18.9
1816-1820	141,200,000	91,144,800	26.2
1826-1830	307,244,400	254,548,200	10.9
1836-1840	617,306,200	513,315,800	13.0
1846-1850	979,690,400	729,524,000	8.7
1856-1860	1,749,496,500	1,383,711,200	11.5

* *The South in Building of the Nation*, V, 211.

Agricultural methods.—The agricultural methods employed during this period were those which had come down from colonial days and were a wasteful kind of extensive agriculture. The land was cleared for cotton, as it had been for tobacco and corn, by girdling the trees and then burning them as they decayed and fell. Before the fields were ready for cotton a few crops of Indian corn or wheat would often be gathered. The ground was prepared and cultivated in a very primitive fashion, but few agricultural implements being used and those only of the rudest and strongest kind, such as even the most careless slave could not break. Fertilizers were but rarely used, not even the cotton seeds being returned to the soil, while rotation of crops was unknown.

Although cotton is said to be the least exhaustive to the soil of the great staple crops of America, such methods rapidly wore out the land. "Agriculture in the South," said John Taylor of Caroline, "does not consist so much in cul-

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tivating land as in killing it." The great abundance of land in proportion to population led to an exploitative agriculture, which reduced annual yields to a point where it was more profitable to abandon the exhausted land and take up a fresh piece.

The labor force employed in cotton-growing, after the first few years subsequent to the invention of the cotton gin, consisted largely of slaves, and since these could be easily moved the cotton planter with his slaves was ever ready to migrate. It is evident that such a one-crop system required unlimited quantities of land, and this fact explains the steady westward movement of cotton culture for the next fifty years. How far the use of slave labor was responsible for the wasteful character of agriculture in the cotton regions it is impossible to say, but the relation between the two was intimate and southern agriculture showed no improvement until after the abolition of slavery.

Other crops.—Although cotton was the most important crop in the South, other agricultural staples were produced there during this period. Tobacco had been the leading crop during the colonial period and retained its pre-eminence as our chief agricultural export down to 1803, after which it sank rapidly in importance, owing to a variety of causes. Among these may be named the exhaustion of the old tobacco lands, the greater profitableness of cotton, the competition of Cuban and other foreign tobaccos, high import duties imposed by foreign countries, and the interference with the export trade by the French decrees and the English Orders in Council, as well as by the embargo and the War of 1812. The production of tobacco remained practically stationary until 1850, but during the next decade it more than doubled, owing to the opening up of new tobacco lands. Virginia, Maryland, and North Carolina continued to be the leading tobacco district, but new areas of production were developed in Kentucky and Tennessee in the West, and in Connecticut and Massachusetts in the North.

Rice was still cultivated in the swamp lands of South Carolina and Georgia, and between 1820 and 1850 its production was considerably increased, but after 1850 a decline set in. Confined to a small area, which was used repeatedly

for the same crop, the rice growers were forced to use fertilizers and to reclaim swamp lands. They thus ranked among the best farmers in the South in their application of scientific principles. Sugar cane was successfully grown in southern Louisiana, and the production of sugar increased steadily until 1850, but during the next decade it too declined.

Southern planters were continually being urged to diversify their crops, but they found the production of these staples, especially cotton, more profitable than grain. Although Indian corn flourished on southern soil and constituted the chief food for the slaves, the five leading cotton states (Alabama, Georgia, Louisiana, Mississippi, and South Carolina) in 1860 produced less than half as much as was grown in the five states (Illinois, Indiana, Iowa, Michigan, and Ohio) north of the Ohio River.⁵ In the case of wheat, oats, rye, barley, and buckwheat, the disparity was still greater. Livestock flourished in the southern climate, Kentucky being famous for her fine horses and, together with Missouri, for mules, and Virginia for sheep; the South kept pace with the North in animal husbandry, and in mules, oxen, other cattle, and swine outdistanced it. Hemp was raised in considerable quantities, and sweet potatoes, peas, beans, and similar articles for local consumption were generally grown.

It is dangerous to generalize for a territory so large as the South and during a period in which profound changes were taking place. Communities differed from each other and within each community there were sharply contrasting economic groups. In the pioneer stage of settlement the farm economy was practically self-sufficient, but as improved transportation opened up markets, there was strong pressure toward concentration on staples for which there was a steady demand. Commercial farming developed. At one extreme stood the nearly self-sufficient farm and at the other the plantation which produced almost entirely for the market. The self-sufficing economy prevailed over wide areas in the South, though as time went on commercial farming became relatively more important. The principle of land utilization for

⁵ *Census of 1860. Volume on Agriculture, p. xlv.*

the most profitable crop led to concentration on certain staples; it was a case of territorial specialization. On the whole, therefore, the outstanding characteristic of southern agriculture was commercial farming, there being a heavy concentration in the lower South on cotton and other staples, while foodstuffs and other agricultural supplies were drawn largely from the West.

*: **Agriculture in the East.**—Agriculture in New England and the middle Atlantic states made little improvement for twenty-five years after the Revolution. Colonial methods still prevailed, and the distinguishing characteristic of the eastern farm, during this period, was its self-sufficiency. Each farm household was practically a self-contained economic unit which produced for itself most of what it consumed, and which carried on the work of production in a careless and inefficient manner. A step forward was made by the concentration of farmers upon the cultivation of the more profitable crops and the elimination of many which had long been under experiment. In New England and the middle States attempts had been made to grow lucerne (alfalfa), vetches, rape, spelt, spurry, poppies, madder, woad, and similar crops, but the discussions initiated by the agricultural societies showed most of them to be unprofitable and their culture was finally discontinued. The lack of progress in general and the failure to improve methods were attributed by contemporary critics to ignorance of the principles of scientific agriculture on the part of the farmers, to their conservatism, and to the cheapness of the land which made them use this agent wastefully while they economized labor. Although these factors all combined to hinder agricultural progress, the real cause of inefficient agriculture was the lack of markets for farm products.⁶ Since the farmers lacked markets they did not attempt to produce a surplus except for trading at the country store.

After about 1810, however, the character of agriculture was vitally affected by two changes which occurred, namely, the development of manufacturing in the East and the improvement of transportation facilities with the West. These caused revolutions both in industry and in agriculture,

⁶ P. W. Bidwell, *Rural Economy of New England*, 352.

which worked themselves out in the short space of half a century. The growth of manufacturing and of factory towns affected especially New England, for it was near the water power of her swift rivers that most of these enterprises were located. The number of towns in New England with a population of over ten thousand grew from three in 1810 to twenty-six in 1860. The growth of these urban centers created a market for agricultural products which the local farmers could best supply, and commercial farming, that is, the production of agricultural commodities for sale rather than for family consumption, began to supplant the old self-sufficient economy. With this went greater specialization.

Around the growing towns market-gardening and dairy-farming were especially profitable, and in certain favored localities further specialization occurred: the cultivation of tobacco in the Connecticut River Valley, wool-growing in the hill country, and the fattening of beef in central Massachusetts. All of these products were consumed by the growing home market, which was gradually transforming New England agriculture. The removal of a considerable number of persons from the farms to the cities also helped to alleviate the pains of this transition, as there was no surplus of agricultural labor to burden the struggling rural communities.

Far more revolutionary in their effects on eastern agriculture, however, were the improvements in transportation facilities, and especially those with the West. The building of improved roads, of the Erie Canal, of steamboats, of western canals, and of railroads brought western agricultural products to the eastern factory towns and to other markets for a fraction of their former cost, and exposed the eastern farmer after about 1830 to a new and sharp competition. Western wheat, pork, and wool could now be brought in at such prices as to discourage home production. Wool-growing and beef-fattening passed from New England to Ohio and the center of wheat production moved from New York to Illinois. On the other hand the areas of profitable specialization in market-gardening, fruit-raising, and dairying were rapidly widened by the new transportation agencies. The production of butter and cheese in New York, which had been confined to the southeastern part of the state, spread

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after 1825 to counties along the Erie Canal, and took the place of wheat farming. Based upon hay and pasture, dairying dominated the agriculture of the East in 1860, the chief sources of income being whole milk, butter, and cheese. Orchard products also received greater attention. The period was one of transition and change, not merely in the newly developing West and South, but also in the older sections of the United States.

Livestock.—The improvement of the common or so-called native cattle was a slow process and did not begin much before 1830. After this date representatives of all the important English breeds were imported, such as Herefords and Guernseys, and especially Durhams or shorthorns. The Devon stock seems to have been preferred in the East, while in the milder climate and more fertile pastures of the West, shorthorns were more esteemed. These were crossed with the common cattle of the United States, resulting in a great improvement in size, early maturity, and quality of beef, and also in yield of milk. Some of these came to be known as the "beef breed" and others as the "milk breed."

Beef production as a specialized industry showed considerable development during this period. The areas tributary to Boston, Philadelphia, and New York City had long been the centers of the eastern cattle-feeding industry. Originally the cattle-feeders had raised their own stock, but with the development of better markets in the East due to the growth of population, and the opening up of cheaper grazing lands in the West, they came to depend upon drovers for their supplies of cattle. The first cattle which were sent to an eastern market from the West were driven from Ohio to Baltimore in the spring of 1805. This proved the beginning of a profitable trade, and until the railroads began to transport them directly to the eastern markets, western cattle were fattened on corn in Ohio during the winter months and then driven eastward in the spring. If they arrived in poor condition they were sold to local farmers, who kept them over a winter and then disposed of them for slaughtering. The building of the railroads resulted in many changes. Ohio ceased to be the center of the cattle-feeding industry, and cattle were shipped East from the graz-

ing lands of Illinois. Now that the long hard drive across the Alleghenies was obviated, cattle arrived in better condition and eastern cattle feeding declined.

The raising of dairy cows was at first carried on as part of the business of producing beef cattle and draft animals, but gradually attention began to be given to improving the breed of dairy cows, and after 1850 the development of a distinctively dairy type of cattle was sought. By 1860 most of the eastern herds had some improved blood in them, but in the West little progress had as yet been made. That improvement had begun is indicated by the increase in the amount of butter which it was calculated an ordinary cow would produce in a year; in Massachusetts it was estimated at 70 to 100 lbs. in 1800, and at 150 lbs. in 1850.⁷ The increase in productivity is explained by better management and food, as well as by better breeding and selection.

An improvement was introduced into the dairying business during this period, which in time worked a revolution in that branch of farm work. Until 1850 all the butter and cheese was made on the farm, but in the next year the associated system of dairying, known as the American system, was inaugurated by the invention of the cheese-factory, of which twenty-one were built by 1861. This development led to further attempts to improve the breeds of dairy cattle, and a large number of pure-bred Jerseys were imported and also some Ayrshires. New York was the leading dairying state in 1860, producing nearly half the cheese and nearly a quarter of the butter made in the whole country. Her Orange County butter was so superior that this name was adopted as a standard.

Draft animals.—Horses were kept by the well-to-do farmers, at the beginning of this period, "to go to mill, and to church, and for the convenience of the family," but for work on the farm oxen were preferred in the East and mules in the South. The breeding of fine horses consequently came about in connection with pleasure driving and racing. A famous line of horses was the Morgan breed of Vermont, descended from one of Morgan's about 1790; horses with a strain of this blood not only excelled in running and trotting,

⁷ Bidwell and Falconer, 229, 431.

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but proved sturdy work-horses for New England farmers. About the same time *Messenger*, the famous sire of American trotters, was imported from England. Since the trotting-horse is one of the few distinctive breeds of livestock which this country has developed, the event is noteworthy. Horse racing was introduced at the agricultural fairs. A great sensation was occasioned in 1806 when the horse *Yankee* trotted a mile under the saddle at the Harlem course in New York City in 2.50, but religious sentiment in the North opposed speed tests. Kentucky, with its wonderful blue grass pastures, came to be the center of breeding saddle and racing horses. The best draft horses were the Conestoga horses, which were supposed to be descended from some large Flemish horses which the Dutch had brought to New York; these later became famous for their speed and endurance in drawing the stage coaches and heavy freight wagons between Philadelphia and Pittsburgh. A notable event was the importation into Ohio of the Percheron stallion *Louis Napoleon*, from which dates a great improvement in the draft horse.

An interesting change was taking place, during this period, in the kind of animal power used on the farms in the north. So long as crude and heavy implements were used, such as the old bull-plow, the cart, and the clumsy wooden harrow, oxen were generally preferred, since they were powerful and docile, and could be slaughtered for food after their working days were over. With the introduction of light farm machinery, however, and the general speeding up which came with the railway, these slow and clumsy animals were displaced by horses, which were quicker and more intelligent.

In the southern states particular attention was given to the raising of mules to supply the cotton plantations. Washington early became interested in the mule as an animal well adapted to the climate of the South and able to endure the hard usage accorded all livestock by Negro slaves. Indeed, he may be said to have been the founder of the mule-raising industry in the United States, for the fine Kentucky breed was a direct descendant of the blooded asses sent him as presents by Lafayette and the King of Spain. Further improvement was made through the importation by Henry

Clay of a jack from Spain in 1832. The raising of mules for sale was pretty well confined to Kentucky and Missouri, and most of them found a ready market in the cotton plantations of the South.

Sheep farming.—Sheep had been grown on most colonial farms for both the mutton and the wool, which was coarse but served as raw material for homespun clothing. Washington, Robert Livingston, and others attempted to improve the breed of sheep by importing merino sheep from France, but not much improvement was made until after 1800. The finest sheep in Europe were the Spanish merinos, whose exportation was forbidden without the King's permission. But in 1800 Napoleon invaded Spain and the royal flocks were dispersed. Large numbers were shipped to the United States and by 1810 it was estimated that twenty thousand had been imported. Just at this time the embargo had cut off the importation of woollen cloth from England, so general attention was directed in the United States to the raising of fine-wool sheep. A decade later Saxony sheep, which were more delicate but whose wool was still finer, were imported. Little success was made in building up pure-bred flocks, but the dispersion of these pure breeds led to the general improvement of the common or native animals. After the thirties English breeds began to be imported, such as Cotswolds, Southdowns, and Shropshires, and great improvements were effected in breeding both for mutton and for wool.

Sheep husbandry was a highly speculative industry during this period. Incited by high prices for wool which were occasioned first by the restrictions of the embargo and the War of 1812 and later by the protective tariff, eastern farmers had rushed into the business almost to the exclusion of grain-growing and stock-raising. When prices of wool fell cheaper areas of production were sought and a steady westward movement of sheep-raising and wool-growing took place. The climax of wool-growing in New England and the Middle Atlantic states was reached between 1830 and 1840; the next decade saw a great increase in Ohio and the states immediately west where pasture was abundant and the cost of production much less. Between 1850 and 1860

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wheat-growing proved more profitable than wool-raising in this section, and the sheep moved still farther west. At this point the industry remained stationary.

Swine.—In no class of domestic animals was there such striking improvement as in swine. Since they come to maturity so quickly modifications in type are more easily made by selection and breeding than in the case of the more slowly maturing cattle or horses. In the East they were frequently raised in connection with dairying, being fed on skim milk, or near liquor distilleries where they were given the mash. After the building of the Erie Canal, western corn-fed pork displaced the eastern product, and hog-raising followed corn production in its westward movement. In the West, where land was cheap and labor dear, little care was given to the feeding of hogs. Abundant and cheap food existed for them in the mast of the oak and beech forests, and in the corn which became their staple food after the forests were cleared. Before 1840 but little attention was given to the type of hog used for feeding, and the common hog was "of an ungainly type, with long legs and snout, a sharp back, of a roaming disposition, slow and expensive to fatten."⁸ It was known as the "razorback," "prairie rooter," "alligator," and similar names. By 1860 this type had nearly disappeared and its place had been taken by improved breeds, such as the Berkshire, Chester County Whites, Woburn, Byfield, China, Suffolk, and others; but the favorite was the Poland China. As the numbers increased pork-packing came to be an important industry, with Cincinnati the packing center until displaced, in 1861, by Chicago. While pork-packing did not assume large proportions until the decade of the Civil War, in 1860 over 400,000 hogs were slaughtered at Cincinnati, and 230,000 at Chicago.

Labor-saving machinery.—As late as 1830, writes Professor Carver, practically every part of the work of the farm except plowing, harrowing, and drawing loads, was done by hand, that is with tools which were directed and moved by human muscles. "Small grain was sown broadcast, reaped with a cradle (which was a relatively new invention), and threshed with a flail, or trodden out by horses and oxen.

⁸ Bidwell and Falconer, 441.

Hay was mown with a scythe, and raked and pitched by hand. Corn was planted and covered by hand, and cultivated mainly with a hoe." Many of these methods and implements showed no change since the times of the Greeks and the Romans. It is surprising that in a country where labor was relatively scarce improvement should have been delayed so long ; but after 1830 progress was rapid. Agricultural machinery and improved implements were invented whose purpose it was to save labor and to increase man's productivity rather than the product per acre of the land. By 1860 the farming industry had been revolutionized in respect of every one of the processes just mentioned by the invention and introduction of labor-saving machinery whose motive power was non-human. No period of equal length in the history of agriculture has witnessed such a complete revolution.

The most important invention was that of the iron plow. The plow at the time of the Revolution was essentially of the same form as that of the ancients, with a clumsy frame and a wooden mold-board, covered more or less completely with scraps of sheet-iron, a horseshoe, or a discarded hoe blade. The first suggestion of improvement was a cast-iron plow, patented in 1797 by Charles Newbold of New Jersey, who, after spending, as he alleged, his fortune of \$30,000 in trying to get it into use, abandoned the attempt, the farmers declaring that iron plows poisoned the soil and prevented the growth of crops. Men like Jefferson and Webster studied the proper shape of the mold-board and directed attention to the need of improvement. It remained for Jethro Wood, of New York, to make the iron plow a practical implement. His improved plow, patented in 1814, was not cast in one piece, like Newbold's, but was made up of several castings joined together by interlocking pieces, so that if a part were broken it could be replaced. By 1830 the improved iron plow was in general use. Other inventors devised new forms, like the prairie breaker, the long easy curve of whose mold-board readily turned the tough prairie sod, or plows which would "scour" in sticky loam, or with a reversible mold-board for plowing across hillsides. Other improvements were introduced by John Lane, who made the first

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steel mold-board, and by John Deere, who improved it ; by James Oliver, who produced the chilled steel mold-board; and by others.

The improvement of the plow, important as it was, would not have been so valuable had it stood alone; implements for cultivating the fields, better than hand hoes and hand rakes, must also be provided. The old triangular wooden-toothed harrow was supplanted by the two-horse hinged harrow with iron, and later with steel, teeth. The horse-drawn cultivator, introduced about 1820, was in general use by 1840. A variety of grubbers, seed-drills, corn-planters, and other small tools, invented during this period, enabled the farmer to substitute animal power for hand culture. All these implements contributed to the production of larger crops and made the problem of the farmers just so much more acute at harvest time, when the crops must be gathered. Accordingly, inventors next began to work earnestly upon the making of machines for cutting hay and grain, threshing, and performing other processes in the work of harvesting.

Reaping.—The substitution after 1803 of the cradle for the sickle, in reaping wheat and other small grains, was a great improvement. The use of the sickle required a stooping position and was extremely fatiguing, so that a reaper could not harvest more than half an acre a day. The cradle scythe was a frame of wood with a row of long curved ribs projecting above and parallel to a broad scythe blade. It was much more efficient and less tiring than the sickle. Its great virtue lay in the fact that the cradle acted as a gathering rake and with every swing of the scythe deposited the grain in even piles which could be gathered up easily and quickly by the binders. But the cradle was still a hand tool and did not cut the grain any faster, though it facilitated binding. What was needed was a machine for cutting grain which could be driven by animal power.

Gradually contributions were made by many minds until the successful reaper finally appeared. In the United States two men claimed the distinction of having invented the reaper — Obed Hussey, who obtained a patent in 1833 and Cyrus McCormick who experimented with his machine even earlier but to whom a patent was issued only in 1834, though

his reaper was not a complete success until further improvements were made in 1845. When the reaper was first invented it was thought that it could be used for cutting grass as well as grain, and little distinction was made between reaper and mower. The mowing machine, for hay alone, was, however, also being developed about the same time, the first patent having been granted to William Manning of New Jersey in 1831; but not until about 1854 was there a clear distinction between them.

The common use of the reaper dates from about 1845, and the mower a decade later. Their use was given a great impetus by the success of American machines at the World's Fair in London in 1851 and at the International Exposition at Paris four years later. At the first exhibition an American reaping machine won the medal by cutting a strip of wheat seventy-four yards in length in seventy seconds. The triumph of the American reapers, said the official report at London, "marked a new era in agriculture." At the Paris Exposition a trial of mowing and reaping machines was made; and the trial of reapers had this result in a field of oats: A French machine cut an acre in seventy-one minutes; an English machine in sixty-six minutes; and an American machine in twenty-two minutes.

Threshing.—But there was another step in the handling of grain before the crop could be marketed, and that was threshing. Down to 1830 most of the grain in the United States was threshed by the wooden flail or trod out on the earthen threshing floor by oxen or horses. With the old-fashioned hand flail a man could thresh in a day from eight to sixteen bushels of grain, depending upon its condition. After it was threshed the grain was separated from the chaff by the crude method of tossing it in the air and letting the breeze blow the chaff away. An improvement came with the introduction of the fanning mill. Many efforts were made to construct a practical threshing machine which would do this work, and numerous machines were invented, some utilizing hand power and some horse power. The best American machine was that invented by Hiram and John Pitt in 1836. One of these improved machines was entered in a trial of threshing machines at the Paris Exposition in

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1855 and swept the field. Of the results a correspondent of the New York *Tribune* wrote: "Six men were set to threshing with flails at the same moment that the different machines commenced operations, and the following were the results of an hour's work:

Six threshers with flails	36 liters of wheat
Belgian threshing machine	150 liters of wheat
French threshing machine	250 liters of wheat
English threshing machine	410 liters of wheat
American threshing machine	740 liters of wheat"

To the machines already listed should be added the horse-rake, which was widely used by 1825 and performed the work of eight to ten men, and the revolving hay rake, which was perfected about 1856.

Effects of farm machinery.—The application of machinery to the work of harvesting marked an epoch in American agriculture; there was now no practical limit to production through inability to harvest the crop. In a new country like the United States, where labor was still scarce and high, labor-saving machines were indispensable. The chief characteristics of the American machines were, as they still are, lightness, simplicity, and cheapness, in all of which qualities they excelled those of England and Europe.

The saving effected by the use of these improved implements was estimated in the census of 1860 as equal to more than one-half the former cost of working. "By the improved plow, labor equivalent to that of one horse in three is saved. By means of drills two bushels of seed will go as far as three bushels scattered broadcast, while the yield is increased six to eight bushels per acre; the plants come up in rows and may be tended by horse-hoes. . . The reaping machine is a saving of more than one-third the labor when it cuts and rakes. . . The threshing machine is a saving of two-thirds on the old hand flail mode. . . The saving in the labor of handling hay in the field and barn by means of horserakes and horse-hayforks is equal to one-half." But the real gain to agriculture by the use of these machines cannot be measured merely by noting the increased area which could be cultivated by a given labor force or by calcu-

lating the saving in labor cost. The advantage consisted rather in the saving of time, which permitted a large crop to be harvested at the moment of maturity without loss through delay or exposure. Except in the case of corn, grain must be harvested within ten days after it matures or it falls to the ground or is spoiled. The entire labor force of the United States in 1860 would probably have been insufficient to have harvested in season the crops of that year by the methods of a generation previous.

Agricultural progress.—At the beginning of this period agriculture was for the most part simply self-sufficing, though in the case of some articles, like tobacco, for which there was an export demand, commercial farming had already developed. By 1860 the transition from self-sufficient economy, where a farmer produces practically everything which he needs, to commercial agriculture, where he specializes on a money crop and buys most of his supplies with the proceeds, had been generally accomplished. The change was not brought about, however, without some disturbance and friction, for habit, tradition, and ignorance held many farmers to known crops and to accustomed methods of production. But the new transportation agencies, the widening areas of production and of consumption, and better methods of marketing gradually brought about specialization and territorial division of agriculture. In the South cotton was the main crop, and the specialization on this provided a market for western foodstuffs and livestock, on which the West specialized. Eastern agriculture suffered from the competition of cheaper products from the newer lands, but this section made good the loss by developing manufactures. These changes had been pretty thoroughly completed by 1860.

American farming was still characterized, at least in the newer regions, by the wasteful and exhaustive methods of cropping without fertilizing the land, which had prevailed in colonial times. Indeed the accumulation of manure was regarded as a nuisance and barns were frequently built beside streams so that it would be washed away. Such wasteful methods were caused partly by the fertility of the soil and the abundance of cheap land, and partly by the unsettled nature of farming and the unwillingness to sink capital in improve-

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ments. "It seldom happens," wrote De Tocqueville in 1840, "that an American farmer settles for good upon the land which he occupies; especially in districts of the far west he brings land into tillage in order to sell it again and not to farm it." So long as land was held only as a speculation, in order to sell again, farming could not be brought to a very high state of development. The American farmer of this period has been likened to a miner, who extracts wealth from the soil, but does not restore it. American agriculture has suffered from this fact down to the present time. For the farmer of that time, however, extensive agriculture was more economical than intensive, since capital and labor were scarce while land was plentiful and could be used generously. In the East, however, methods had considerably improved by 1860.

Improvements in agriculture.—Among the improvements which were made during this period two at least may be noted. One was the growing attention to rotation of crops and the other a better appreciation of the value of fertilizers. In England a well-known crop system⁹ had rotated turnips, barley, clover, wheat, but in the United States corn was substituted for turnips and served about as well the purposes of furnishing fodder for livestock and of conserving the soil. A widespread American system of rotation, developed in Pennsylvania, was corn, barley or oats, wheat, clover, which with modifications still forms the basis of farm management in many sections today. The other change was the greater use of fertilizers, though it must be said that this was done only in particular districts and was not yet a general practice among ordinary dirt farmers. Stable manure, guano, gypsum, marl, and other fertilizers were applied to increase the fertility or improve the soil qualities. The full development of this phase of agriculture had to wait for the application of chemistry and physics to the soil.

The causes for the great advance in agriculture which characterized this period, in spite of the persistence of harmful practices, were several. First, there was the vast breadth of virgin lands, which permitted the use of only the best soils and secured extraordinary response to man's cultiva-

⁹ Arthur Young, *The Farmer's Tour*, 1771. Vol. II, p. 156.

tion. In the second place, was the high character of the farming class; "the men who tilled the soil here," wrote President F. A. Walker, "were the same kind of men, precisely, as those who filled the professions or engaged in commercial or mechanical pursuits. . . . There was then no other country in the world . . . where equal mental activity and alertness have been applied to the soil as to trade and industry." A third set of causes comprised the great mechanical inventions, both in agricultural machinery and in transportation, which enormously increased man's ability to produce, harvest, and market the product of the country's expanding farms. In the fourth place, the various educational forces in operation during this period should be noted.

The formation of agricultural societies was an important step, for they awakened inquiry, disseminated knowledge, and paved the way for agricultural literature. The first of these was the Society for Promotion of Agriculture, founded in South Carolina in 1785; in the same year was established the Philadelphia Society, which included Franklin and Washington among its members. Washington corresponded with Arthur Young and Sinclair, leaders in the improvement of agriculture in England, and sought to introduce scientific principles developed there into America. During the next seventy-five years great numbers of these societies sprang up all over the country, whose aim was to act as a forum, to spread information as to innovations by successful farmers, and to encourage better agriculture by holding fairs and offering premiums. The county fair was originated by Elkanah Watson in 1810 and was made permanent by the Berkshire Agricultural Society, organized for that purpose. This differed greatly from the older literary societies, and became a model for numerous county societies, which numbered about 900 in 1860. These agricultural fairs were extremely important in disseminating ideas and promoting rivalry, especially in connection with the new agricultural machinery. The plowing and reaping matches rivalled the Roman chariot races in interest and excitement, and served to introduce the machines to the farmers by actual demonstration and also to promote improvements by the manufacturers.

Agricultural journals were a product of the nineteenth

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century, the first one being the *American Farmer*, founded by John S. Skinner in Baltimore in 1819. This was followed by a number of others, principally in the middle west, of which only one, *Prairie Farmer* (Chicago, 1840), has continued publication to date. These papers did much to educate the farmers and to spread a knowledge of the best practices. Formal agricultural education belongs to the period after the Civil War, though the Michigan State College of Agriculture was opened in 1857, followed two years later by Maryland and Pennsylvania. The still tardier recognition that was accorded agriculture by the federal government is illustrated by the fact that not until 1862 was a Bureau of Agriculture established; between 1839 and 1862 the agricultural reports were printed in the annual report of the commissioner of patents. Agriculture was self-sufficient in more than one sense and did not feel the need of governmental assistance in any form.

Condition of the farmer.—The economic position of the American farmer during this period was one of increasing prosperity, interrupted only temporarily by banking troubles, by panics, or by crop failures. The building of internal improvements was furnishing sections of the country with better means of transportation and affording access to markets. The spread of cotton culture brought in large profits to southern planters and provided an outlet for northern produce, while the growth of manufactures contributed also to the development of a home market. The life of the settlers in the new West was not very different from that of the early colonists in the eastern states. A rude abundance of the necessities of life was everywhere to be found, and a generous hospitality was remarked by travelers as a characteristic of the people.

Breadstuffs—wheat and corn—were plentiful and cheap. Game was abundant, and cattle and hogs multiplied rapidly and foraged for themselves in the woods, so that animal food was a usual article of diet. The settler's garden furnished him all the vegetables necessary for his table, with little attention on his part; there was usually a superfluity of potatoes, squashes, melons, and other common vegetables. Tomatoes, curiously enough, were grown as ornamental shrubs

under the name of "love apples," but were not eaten until about 1830, as they were generally supposed to be poisonous. Apples, peaches, pears, and other fruits were fairly plentiful, but were of poor quality.¹⁰ Salt and iron alone were scarce, and, in the prairie region, wood; elsewhere it was abundant. Clothing was of homespun, and in the outlying districts often of leather and skins. Where the population was dispersed, the life of the settler was often lonely and marred by the prevalent malaria. But these were temporary hardships, to be endured for the sake of the certain increase in the value of the land and the satisfaction of being one's own master.

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¹⁰ Mrs. Trollope, in her ill-natured *Domestic Manners of the Americans*, writes as follows of her experience in Ohio: "All the fruit I saw exposed for sale in Cincinnati was most miserable. I passed two summers there, but never tasted a peach worth eating. Of apricots and nectarines I saw none; strawberries very small, raspberries much worse; gooseberries very few and quite uneatable; currants about half the size of ours, and about double the price; grapes too sour for tarts; apples abundant, but very indifferent; none that would be thought good enough for an English table; pears, cherries, and plums, most miserably bad."

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CHAPTER XIII

TRANSPORTATION AND INTERNAL IMPROVEMENTS

Importance of transportation in the United States.—At every period of our history the need of improved means of transportation has been pressing, but especially so after the westward movement carried the population beyond the Appalachian Mountains and away from the seacoast and easy water communication with markets. Transportation has been, from the first settlements, the essential condition of the opening up of the continent. As a cause of changes in our industrial and political organization, the extension of markets through betterments in transportation has been even more significant than have improvements in the technique of production.

The growth of cities, the concentration of industry, large scale production, foreign trade, the development of modern economic and social life have been brought about by improvements in transportation. To the same factor is due the political success of a democratic government in the vast area of the United States, for the nation might have disintegrated had it not been closely bound together by economic ties and had not the growing distances been shrunk by quicker communication. The political necessity of interstate communication was emphasized by the Revolution and the separatist tendencies of the rapidly growing western territory.

After the establishment of the Union, a movement for improvement was inaugurated. At no time was the demand for betterment more urgent than it was during the period after the War of 1812. The difficulties of moving troops revealed the insufficiency of existing means of transportation, and the settlement of the West which followed made improvement absolutely imperative. Only by this means could

the vast interior of the continent be made accessible to the people of the United States and be connected, economically as well as politically, with the Atlantic seaboard. The settlement of the West and the development of our resources were made possible only by the building of means of communication better than the old trails or natural waterways. If the people had been compelled to depend exclusively upon natural waterways and roads, the westward movement would have been much slower.

The development of transportation in the United States advanced by stages, each of which marked an improvement over that which preceded. First came the turnpikes, whose greatest development belonged to the period between 1790 and 1815. Before this movement had more than fairly gained headway, the steamboat was invented and introduced on our rivers and greatly stimulated the use of our natural waterways. At once it was perceived that if these could be joined by canals the country could be united by a network of waterways. This period may be said to have continued from 1815 to 1850. About the latter date railroad building, which had commenced twenty years before, set in on a considerable scale and railroads began to threaten the supremacy of water transportation; by 1860 they promised to supersede it.

The turnpike period.—The roads which existed in the United States at the close of the eighteenth century must have been poor even according to the low standards of that time, for not only English travelers, but also those of other nationalities and our own citizens, testified to the bad character of the highways. According to McMaster,¹ there were no bridges over the great rivers in 1784, roads were bad, and all journeys were made on horseback or in stagecoaches or boats. Weld,² writing of a journey from Baltimore to Washington in 1795, stated that "the roads are so exceedingly bad that a carriage will sometimes sink so deep as to defy the utmost exertions of the strongest horse to draw it forwards; and in some parts that would be otherwise totally

¹ *History*, I, 44.

² Isaac Weld, *Travels Through the States of North America* (Philadelphia, 1800),

47. See also the accounts given in Bogart and Thompson, *Readings*, 240-243.

impassable, causeways constructed of trees are thrown across the road ; but these frequently break asunder and constantly expose a traveler to the most imminent danger. The bridges built across the creeks are equally perilous, being formed of a few loose boards that totter while a carriage passes over them."

A long step forward was taken when turnpikes were built in place of the poorly constructed and disconnected local roads. These were built by private stock companies as continuous lines for through traffic, the cost being met by tolls levied upon all who used them. The first one of importance was the Lancaster-Philadelphia turnpike, some 62 miles long, which was completed in 1794 at a cost of \$465,000. The success of this road led to a craze for turnpike construction. In the next thirty years Pennsylvania chartered 86 companies which built 2200 miles of road. In New York 135 companies completed some 1500 miles by 1811, and in New England 180 companies had been chartered by 1810. The next step was to build toll bridges, which were financed in the same manner. During the continental and Napoleonic wars the great demand abroad for our agricultural staples increased the need at home for better means of transportation. "In a few years," says McMaster, "a sum equal to the domestic debt at the close of the Revolution [\$40,000,000] was invested by the people in the stock of turnpike companies."

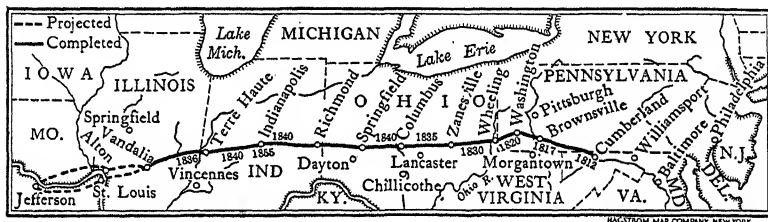
In spite of the great improvement in transportation effected by these new routes, the cost of moving freight on land was still very high, as compared with that by water. It cost about thirty-three per cent of the value of goods to convey them from Philadelphia to Kentucky by land, and only four to four and one-half per cent from Illinois to New Orleans by water. On the average it cost about \$10 a ton for every 100 miles to transport goods by land ; articles which could not stand these rates, as flour and grain, were prevented from reaching a market unless they found an outlet by water. The freight per ton between Philadelphia and Pittsburgh by land was about \$100, but from Philadelphia to Europe it was only \$10. These rates included the tolls, which in many cases were extremely high ; thus for a one-horse cart

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there was collected in New York .6 cent per mile, in Pennsylvania and Maryland 1.25 cents, and in New Jersey 3 cents.³

Government aid.—These roads and turnpikes were for the most part constructed by private companies, though often with state aid, but now the federal government was urged to lend its assistance. In 1808 Albert Gallatin, the Secretary of the Treasury, made to Congress a report on roads, canals, harbors, and rivers, in which he proposed a comprehensive scheme of internal improvements by the federal government, to cost about \$20,000,000. The net result of the ensuing agitation was the construction by the federal



[After Fite]

THE CUMBERLAND ROAD

government of the Cumberland Road or "National Pike" from Cumberland, Maryland, to Vandalia, Illinois. The first stretch to Wheeling, then in Virginia, was begun about 1811, and further work took it almost due west through Zanesville, Columbus, Indianapolis, and so to Vandalia, which was reached in 1838. The total cost for construction and maintenance to this date was \$6,821,200. The time required to go from Baltimore to Wheeling was reduced from eight to three days, and the cost of freightage was cut in half.

Immediately upon its opening a flow of traffic swept over this great highway and it became the most important thoroughfare between East and West. The historian of this road states⁴ that "As many as twenty four-horse coaches have been counted in line at one time on the road, and large, broad-wheeled wagons, covered with white canvas stretched over bows, laden with merchandise and drawn by six Conestoga horses, were visible all the day long at every point, and

³ B. H. Meyer (Ed.) *History of Transportation*, 68-70.

⁴ Thos. B. Searight, *The Old Pike* (Uniontown, Pa., 1894), 16.

many times until late in the evening, besides innumerable caravans of horses, mules, cattle, hogs and sheep."

Congress entered readily upon this policy of internal improvements, not merely for the economic purpose of obtaining better and cheaper transportation, but for political reasons also in order to unite the western country with the East ; a minor consideration was the greater speed and safety of the mails. As a solution of the problem of improved transportation, however, the building of roads alone was inadequate ; but before the federal government could enter upon a more general scheme of internal improvements, doubts as to its constitutionality brought the federal system to an end. But the movement did not cease ; better means of communication must be had and the work of constructing them was next taken up by the states.

Plank roads.— Before discussing waterways and railroads, it is desirable to describe an improved form of road which seems to have been almost peculiarly American. This was the plank road. Introduced first in Canada in 1835, it soon spread to the United States, where it was declared "the most valuable improvement since Macadam's, and one superior to his in many localities." The method of laying a plank road was to embed parallel stringers in the earth about four feet apart, and across them to lay planks, eight feet long and three or four inches thick. Such a road cost about \$1200 to \$1500 a mile. Most of them were built by private companies, which charged tolls to the users. These roads were a great improvement over the old dirt roads and even over the macadamized turnpikes. They were called the "farmers' railroads," and as late as 1850 a writer in *De Bow's Review* advocated the building of plank roads rather than railroads on the ground that they were better, cheaper, and less complicated.

Under the conditions prevailing in a new country they had many advantages and several thousand miles were built in the United States, especially in the West and South. One advantage was the simplicity and cheapness of construction ; they could be built by local labor and materials and as fast as a section was finished it could be put to use, whereas much idle capital was tied up in a canal or railroad until the whole

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system was completed. The road was available at all seasons, in contrast with the canal and the common road, while the speed of travel was greater and the expense less than on the turnpike. A horse could draw from two to three times as great a load upon a plank road as he could on an ordinary macadamized road, and the rate of travel in coaches with four horses was about nine miles an hour. These roads were of the greatest utility in opening up and developing the newer sections of the country which the railroads did not reach, but went out of use as the latter were extended. They are not to be confused with the "corduroy" roads, made of logs, thrown across the dirt roads and used to bridge swampy and wet places, which were commonly employed in the eighteenth and early nineteenth centuries. These latter were wretched makeshifts in a period of hasty and unscientific road-making.

The steamboat period.—Meanwhile efforts were being made to utilize better the navigable waters instead of building expensive land routes. As early as 1783 Oliver Evans began experimenting with the application of steam to the propulsion of wagons and boats, but not until 1804 did he successfully carry out his plans. In that year he drove a wagon by steam through the streets of Philadelphia and then propelled this vehicle, the *Oruktor Amphibolos*, up the Schuylkill by means of paddle-wheels. Better claims for priority in successful steamboat building were advanced by James Rumsey and John Fitch, about the same time. Fitch began experimenting with his steamboat in 1785, and in the summer of the following year made his first trial trip on the Delaware; paddle-wheels were first used and later a system of six upright oars on each side. The really astonishing speed of eight miles an hour was made. Pennsylvania granted to Fitch "the sole right and advantage of making and employing the steamboat by him lately invented for a limited time," namely fourteen years. A similar monopoly was conferred by Delaware, New York, and Virginia. Regular trips were made during the summer of 1790 between Philadelphia, Bordentown, Trenton, and Wilmington, but were abandoned after that year as they proved unprofitable.

Meanwhile Rumsey had succeeded in propelling a steam-

boat of his own on the Potomac, in 1787. By his method water was sucked in at the bow and ejected at the stern. On the trial trip a speed of four miles an hour was attained against the current. Before the end of the century other successful experiments had been made by Nathan Read at Salem, by William Longstreet on the Savannah, by Elijah Ormsbee at Providence, by Samuel Morey on the Connecticut, and by John Stevens on the Hudson. Defects in the engines, in the size of the wheels, and in other particulars prevented any of these inventions from becoming commercially profitable, and the honor of first making the steamboat a practical success was reserved for Robert Fulton. In August, 1807, he sailed the *Clermont* from New York to Albany, one hundred and fifty miles, in thirty-two hours, and back in thirty hours.

When the *Clermont* started on her epoch-making trip up the Hudson, skeptical crowds lined the shore to see "Fulton's Folly." Fulton himself wrote:⁵ "The morning I left New York there were not perhaps thirty persons in the city who believed that the boat would move even one mile per hour, or be of the least utility." The boat was one hundred and thirty feet long, and was provided with side wheels fifteen feet in diameter, with buckets four feet wide. Clumsy as the vessel was, it demonstrated the practicability of steam navigation, and secured for its owners, Fulton and Livingston, a monopoly of the navigable waters of New York state for twenty years.

Steamboats on western waters.—Steamboats now began to be built for general use: the summer of 1809 saw one on Lake Champlain, another on the Raritan, and a third on the Delaware. Two years later the steamboat was introduced on the Ohio, and the era of steam as applied to water transportation had fairly begun. In the early days the long river journey down the Mississippi with no hope of a return cargo, the danger to the cargo by reason of the change to the hotter climate of the lower river, the likelihood of finding the market at New Orleans glutted, and finally the long sea voyage to a more distant market, made the shipment of produce down the Mississippi system a

⁵ See his letters in Bogart and Thompson, *Readings*, 250.

hazardous and often losing venture. The steamboat promised relief from all these difficulties.

The *New Orleans*, built at Pittsburgh because of the lumber and iron manufactures established there, descended the Ohio and Mississippi in 1812, but was unable to return against the swift current of those rivers. Improvements were made, however, both in the shape of the hull, the character of the engine, and the paddle-wheels, so that the *Enterprise*, the fourth of the western steamboats, was able in 1815 to make the trip upstream from New Orleans to Louisville in twenty-five days. Of this achievement Salmon Chase wrote⁶ that it was "an event of more momentous consequences to the West than the issues of a thousand battles." The following year the *Washington*, a new type of vessel with its engine on the deck and with stern paddle-wheels, solved the riddle of the shallow shifting western rivers.

With these events began the era of successful steam navigation of the Mississippi and its tributaries. Its full realization was delayed for a few years by the grant by Louisiana to Livingston and Fulton of a monopoly of navigation for steam vessels on the lower Mississippi, and by conflicts over patents covering the improvements made by various inventors. From 1811 to 1816, inclusive, only seven steamboats were built on western waters, but in the next year a suit was brought in the Louisiana courts to break this monopoly. Before this could be heard the Supreme Court had decided in the case of *Gibbons v. Ogden*, in 1824, that the waters of the Hudson, and hence of all other navigable rivers in the United States, were a heritage of the people and could not be monopolized by any state or individual, thus affirming the Ordinance of 1787.

Navigation was now made free to all, subject only to federal legislation, and a great impetus was given to the building of steamboats. The number on the western rivers increased rapidly, and it was estimated that there were 200 by 1829, 450 by 1842—the tonnage of which was greater than that of all the steamboats in the British Empire—and over 1000 by 1860. The time from New Orleans to Pittsburgh was reduced from 100 to 30 days, and this improve-

⁶ *Ohio Statutes*, Vol. I, p. 11.

ment in turn increased the number of trips. This in turn greatly reduced the rates, which at first had been rather high. But the greatest advantage lay not in the reduction of time or cost, but in the expansion of the market. The products of the farms could now be disposed of in distant markets where prices were higher, while goods received in exchange could be obtained more cheaply. The value of the commerce carried on the rivers expanded greatly, the value of the produce received at New Orleans increasing from \$5,000,000 in 1807 to about \$50,000,000 in 1840, and \$185,000,000 in 1860. Including the intermediate trade and the passenger traffic, the total commerce of the western rivers was probably over \$300,000,000 at the last named date.

Statistics give a very inadequate picture of this picturesque phase of American transportation; it must be sought in such books as Mark Twain's *Life on the Mississippi*. Here are pictured the dangers from shoals and bars, from submerged trees, from boiler explosions, and other accidents. Here, too, are portrayed the human types that were developed on the rivers—pilots, rivermen, gamblers, showboat players, and others. It was a bold, rough, crude, but romantic and vigorous stage of commercial evolution.

The Great Lakes also witnessed the advent of the steamboat during this period, the first one being built on Lake Ontario in 1816; three years later the *Walk-in-the-Water*, the first steamer on Lake Erie, was launched. The building of the Erie and Ohio canals stimulated the lake trade, which, however, did not grow rapidly until about 1850, the tonnage on all the lakes increasing from 3500 in 1820 to 75,000 in 1840, and 470,000 in 1860. Lake cities like Cleveland and Detroit sprang into being and Chicago, with a population of 109,000 in 1860, already gave assurance of her later marvelous growth.

The great economic significance of the steamboat lay in the fact that it rendered available at once, without any expense of construction, a vast system of navigable waters, which permitted easy, cheap, and rapid transportation. This was of enormous importance to the new regions which had access to the rivers. But the farmers in western New York,

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in northern Ohio and Indiana, in Michigan, and other sections of the country which were not situated on navigable streams did not share these benefits and clamored insistently for better means of communication, especially with the East. In addition to the economic weakness there was also political danger in the situation. The country was divided into three strongly marked sections—the East, the South, and the West—and the economic bonds holding them together, especially those between the East and West, seemed at times almost inadequate to overcome the separatist tendencies which showed themselves from time to time.



CANALS IN THE NORTH, 1850

The canal period.—The first answer on a large scale to the demand for improved means of water communication was made by New York state in building the Erie Canal, connecting Lake Erie with the Hudson River. Gallatin named six canals which had been constructed prior to 1807 at a cost of over \$10,000,000, but they had been short affairs. Now began the construction of grand trunk canals, which connected important bodies of water and provided for through traffic. Of these the most successful was the Erie Canal. The plan for this was not a new one, for as early as 1792 a company had been formed to connect Lake Erie with the Hudson River. The actual work of building

the canal did not begin until 1817, but within eight years it was finished. The completion of the "big ditch" was celebrated with appropriate ceremonies at Buffalo, from which point a fleet of boats proceeded to New York, where their arrival was the signal for a fresh outburst of enthusiasm. A flask of water from Lake Erie was poured into New York Bay, and the marriage of the inland waters with those of the ocean was declared to be consummated. The cost of the canal was about \$7,000,000, but the revenues from the tolls in the first nine years more than covered this sum; by 1841 the tolls amounted to \$2,000,000 for the year.

Effects of Erie Canal.—Still more important than the financial returns to the state were the economic advantages of the canal to the community at large. Wherever the canal touched a waterway a thriving town sprang up, as at Syracuse, Rochester, and Utica. Buffalo and Albany, the terminals, grew still more rapidly, and New York, the leading port of the United States, shot farther ahead of her rivals Boston and Philadelphia. Branch canals were built connecting the main canal with Champlain, Ontario, and Seneca lakes, and these stimulated a vigorous trade. The number of vessels on Lake Champlain before the canal was opened was only twenty, but a year later there were 218. Previous to the construction of the canal the cost of transporting freight from Buffalo to New York City was \$100 a ton, and the ordinary time of passage was twenty days; most of the wheat of western New York was consequently floated down the Susquehanna to Baltimore to avoid this long and expensive haul, while that from the central section went down the Delaware to Philadelphia. On the opening of the Erie Canal the cost of freighting from Buffalo to New York fell to \$5 a ton and the time of transit was reduced to six days, thus diverting much of the western traffic to the new route.

Nor were the effects confined to New York State alone; the entire western lake district had now obtained a new outlet for its produce and much that previously went down the Mississippi to New Orleans was shipped through Buffalo at greatly reduced rates. Freight rates between Ohio and

the seaboard were steadily lowered until they were about one-tenth the former figures. The result was beneficial to the farmers, both as producers and as consumers. In 1824 corn was sold in Cincinnati for 8 cents a bushel, wheat for 25 cents, and flour for \$1.25 a barrel; after the opening of the canal these commodities brought in double or treble to the western farmers, while at the same time the prices were lowered of eastern manufactures which the farmers bought.

The building of the Erie Canal had established an economic bond between the East and the West, and had suddenly opened up a profitable trade between them. For passenger travel too the canal packetboats proved very popular; Horace Greeley stated, with journalistic exaggeration, that he traveled on the Erie Canal from Albany to Buffalo, for "a cent and a half a mile, a mile and a half an hour." Inadequate as these facilities were, they marked an improvement over the jolting stagecoach. It is almost impossible to overemphasize the importance of the Erie Canal and its far-reaching effects on the economic development of that time. The change effected in transportation was much more momentous than the early railroad building, for it was more immediately revolutionary.

Other canals.—The success of this undertaking led to a mania for canal-building and other "internal improvements," as they were called, which was greatest in Pennsylvania, Massachusetts, Maryland, Virginia, Ohio, Indiana, and Michigan. The diversion of the western commerce to New York City threatened the prosperity of Philadelphia, Boston, and Baltimore, and at once the states in which these cities were situated began to plan works to compete with the Erie Canal. Merchants of Philadelphia pointed out that it cost them more to send goods by land 150 miles to central Pennsylvania than it did New Yorkers to send similar goods by water 750 miles to central Ohio. Pennsylvania therefore acted to assist her merchants and between 1826 and 1834 constructed between Philadelphia and Pittsburgh a remarkable and unique canal system, with a portage railway over the Alleghenies which conveyed the loaded canal

boats without transshipment of cargo. This cost more than the Erie Canal — \$10,000,000 — and was not so successful as it tapped a less productive region, but it saved to Philadelphia some of the trade which otherwise would have gone to New York. Massachusetts appointed a commission to inquire into the possibility of cutting a canal from Boston to the Hudson River, in order to divert some of the western trade which came through the Erie Canal, instead of having it go down the Hudson River. This was found to be impracticable, however, and Boston suffered a serious loss of trade. By the time Maryland was ready to act railroads had attracted favorable attention as an improved method of transportation, and Baltimore was quick to seize upon this method of reaching the western territory by the construction in 1828 of the first railroad, the Baltimore and Ohio.

It was in the western states, however, with their long distances, lack of roads, and great areas without access to natural waterways, that canals were of the greatest economic significance. The opening of the Erie Canal was accordingly the signal for similar improvements in several of these states. The most important projects were those to connect the lakes with the Ohio and Mississippi rivers, for by this means through communication with either New York City or New Orleans was obtained for all the interior country served by the canals. Ohio built two such canals, the Ohio Canal between Cleveland and Portsmouth, completed in 1832, and the Miami Canal between Toledo and Cincinnati, completed in 1845, both joining Lake Erie and the Ohio River.

The effect of these canals in stimulating production as well as in diverting trade from its old routes was immediate; by 1835 there was shipped from Ohio to New York by canal and lake the equivalent of 543,815 bushels of wheat and 2,500,000 staves, and these shipments steadily grew in subsequent years. Until the opening of the Miami Canal the northwestern part of the state was almost a wilderness, and "before the completion of the canal in 1845 not a single bushel of grain nor a single barrel of pork was exported from this region; by 1846 over 125,000 bar-

rels of flour and almost 2,000,000 bushels of grain were sent through the canal to the northern market."⁷

Not merely was the land opened up, but the products of the forests and the mines also found a market. At the same time the western farmer was enabled to obtain better prices for his goods: products, which before had glutted the local market, could now be sent to distant points where they were in greater demand. "The cash value of wheat," wrote the Ohio canal commissioners, "which forms a principal staple for exportation, has been advanced in the vicinity of the canals nearly one hundred per cent, while many articles of importation, comprising some of the most important necessities of life, have been much reduced in price." The Ohio settler could now sell his grain and livestock at higher prices and purchase his axes, plows, and other implements and manufactured goods for a fraction of what he had formerly paid. These facts had a powerful effect in stimulating the settlement of the West, which was now assured profitable markets and communication with the seaboard.

The other western states soon followed the example of Ohio. Indiana constructed the Wabash and Erie (1832-43), which ran from Evansville on the Ohio River to the Ohio state line near Defiance where it joined the Miami Canal and so found an outlet to Lake Erie at Toledo. This state also built the White Water Canal. Illinois, still largely a wilderness, built the Illinois and Michigan Canal (1836-48), and Wisconsin and Michigan projected plans far beyond their needs or financial ability. The southern states undertook far less in the way of canal building as they were well supplied with navigable streams, but instead put their money into state banks which were to supply to the expanding cotton industry the credit needed to buy land and slaves.

Internal improvements by the states.—When the demand for internal improvements became urgent, the people turned to the states for assistance in carrying out the plans. The reasons for invoking state aid were several. In the

⁷ E. L. Bogart, *Internal Improvements and State Debt in Ohio* (New York, 1924), 86.

first place, as we have seen, the federal government, which had undertaken willingly enough the work of improving the means of communication, had been estopped from continuing it by constitutional objections. But private capital was not equal to the task of carrying out such large enterprises as were now being planned. Even if it existed in large enough amount, which was doubtful, the projects were too large and the returns too remote to warrant an individual's risking his whole capital. While these works of public improvement might have been entrusted to corporations, there was the feeling, in addition to a distrust of corporate management, that many improvements should be made that might not be commercially profitable, and that the state alone could undertake these. Moreover, the state had perpetual life and, with its high credit, could borrow the necessary capital on much better terms than could private individuals. It seemed eminently fitting, therefore, that the state governments should undertake the work of internal improvements. But there were some additional forces which should be mentioned, which explain the willingness of the state legislatures to enter upon this work.

The people of the whole country, particularly of the West, were insistent upon having improvements of every sort, and especially better means of transportation. Most of the state constitutions adopted during this period contained either directions or permissions to the legislatures "to encourage internal improvements within the state." The federal government, though it had withdrawn from the work directly, gave assistance to the states in land and money: it donated a percentage of all sales of public lands to the states for this purpose and distributed among them the surplus revenue of the federal government in 1837. Counties and municipalities and even individuals gave donations of land and money, and clamored for local improvements. Finally, the success of the Erie Canal, the commercial rivalry of the Atlantic ports, the easy method of obtaining money by borrowing instead of by taxation, and the speculative fever of the period, led the legislatures to embark in enterprises far beyond the needs or means of the people at that time.

The magnitude of the work of internal improvements undertaken by the states may perhaps best be shown by the increase in state indebtedness. Up to 1820 the states had incurred practically no liabilities, but beginning with that year their debts began to grow: in 1820 these were almost \$13,000,000; in 1830, over \$26,000,000; and in 1835, over \$66,000,000. During the next five years they trebled, reaching \$170,000,000 in 1838, and \$200,000,000 in 1840. Practically all this money went into internal improvements—roads, canals, railroads, and banks.

The following table shows succinctly the purposes for which state debts had been contracted up to 1838.

OBJECTS OF STATE DEBTS UP TO 1838						
<i>States*</i>	<i>For Banks</i>	<i>For Canals</i>	<i>For Railroads</i>	<i>For Roads</i>	<i>Miscellaneous</i>	<i>Total</i>
Alabama.....	\$7,800,000	.....	\$3,000,000	.....	.....	\$10,800,000
Arkansas.....	3,000,000	.....	.....	.....	.....	3,000,000
Illinois.....	3,100,000	\$900,000	7,400,000	.....	\$300,000	11,700,000
Indiana.....	1,390,000	6,750,000	2,600,000	\$1,150,000	.....	11,890,000
Kentucky.....	2,000,000	2,619,000	350,000	2,400,000	.....	7,369,000
Louisiana.....	22,950,000	50,000	50,000	.....	235,000	23,285,000
Maine.....	.....	.....	.....	.....	554,976	554,976
Maryland.....	.....	5,700,000	5,500,000	.....	292,980	11,492,980
Massachusetts..	.....	.....	4,290,000	.....	.....	4,290,000
Michigan.....	.....	2,500,000	2,620,000	.....	220,000	5,340,000
Mississippi.....	7,000,000	.....	.....	.....	.....	7,000,000
Missouri.....	2,500,000	.....	.....	.....	.....	2,500,000
New York.....	.....	13,316,674	3,787,700	.....	1,158,032	18,262,406
Ohio.....	.....	6,101,000	.....	.....	.....	6,101,000
Pennsylvania...	.....	16,579,527	4,964,484	2,595,902	3,166,787	27,306,700
South Carolina..	.....	1,550,000	2,000,000	.....	2,203,770	5,753,770
Tennessee.....	3,000,000	300,000	3,730,000	118,166	.....	7,148,166
Virginia.....	.....	3,835,350	2,128,900	354,800	343,139	6,662,189
<i>Total.....</i>	<i>\$52,740,000</i>	<i>\$60,201,551</i>	<i>\$42,871,004</i>	<i>\$6,618,868</i>	<i>\$8,474,684</i>	<i>\$170,356,187</i>

* The seven other states, which at the time belonged to the Union, had no debt, namely Connecticut, Delaware, New Hampshire, New Jersey, North Carolina, Rhode Island, and Vermont.

It is evident that this enormous expenditure of funds meant a large investment of capital. But where were these huge sums to be obtained? Little of it indeed was raised by taxation; practically all was borrowed, part at home, but most of it from foreign capitalists. The extent to which foreign capital was being invested in the United States, and domestic capital and labor were being applied to the work of developing the West, is well illustrated by the state of

our foreign trade. During the decade 1830 to 1840 the imports exceeded the exports about \$200,000,000, and at the same time the imports of specie exceeded the exports by more than \$50,000,000, while in spite of our agricultural pre-eminence we imported over five and a half million bushels of wheat during the same period. In other words, we were so engrossed in the work of internal improvements that we did not even take the time or the labor to raise our own food. The high credit then enjoyed by the American states, which had been greatly enhanced by the payment of the national debt in 1833, enabled them to borrow these enormous sums abroad, and especially in England, where capital had been accumulating, at comparatively moderate rates of interest. Ex-President Jackson in 1839 estimated that \$200,000,000 was due from states and corporations to creditors in Europe, on which the annual interest charge was about \$12,000,000.

The crisis of 1837 halted the work of internal improvements. As soon as the bubble of speculation and high prices was pricked, it was clear that many of the enterprises were premature and unnecessary. Most of them were extravagantly, if not corruptly, managed, while hundreds of thousands of dollars had been sunk in absolutely useless undertakings. When the debts, so easily contracted, began to press, several of the states repudiated their indebtedness; the worst offenders were Mississippi, Louisiana, Maryland, Arkansas, Indiana, and Michigan, although some of these states afterwards paid in part or in whole. The demand on the part of foreign creditors for payment, together with the unwillingness on the part of the other states to be branded with the defaulting states as "repudiators," led to a movement, which culminated in 1842, to have the federal government assume all the state debts; but nothing came of the agitation.

The works already built were sold by most of the states, and these now withdrew from the business of supplying railroads and canals; New York, Ohio, and Illinois alone of the states retained all their public works. The changed attitude of the people regarding the advisability of state enterprises found expression in the inclusion of provisions in

practically all the state constitutions adopted after this period, prohibiting the use of state funds or credit for internal improvements. Having failed in the business once, the states were to be debarred from further attempts along the same line. Accordingly, when the development of railroads began just at this time, the successive withdrawal of the federal government and failure of the state governments in this work of internal improvement left the work of railroad construction to the enterprise of private individuals and corporations. These proceeded more cautiously after the panic, and made a better record for their investors than the states had for the taxpayers; they were fortunate, too, in taking over the task of building railroads after the costly experimental stage had been passed.

The railroad period.—The early history of railroads in the United States is closely connected with the commercial rivalry of the seaboard cities in the race for western markets. Baltimore had taken the lead with the opening of the National Road in 1817, but New York had completely outdistanced her with the Erie Canal in 1825, and Philadelphia had maintained second place. Baltimore and even more Boston were debarred by geography from reaching the West by canal, and they therefore turned eagerly to the railroad as a means of regaining their lost trade.

The first railroad in the United States was the Baltimore and Ohio, begun in 1828 and opened for traffic on a short stretch in 1830, although the Quincy tramway, used for transporting stone to the Bunker Hill monument, and a couple of gravity roads in the coal regions of Pennsylvania, had anticipated it shortly. Horse power and sails were used at first as a motive power on the Baltimore and Ohio, and not until after eighteen months of experimentation was steam finally decided upon. For the next two decades the development of railroads proceeded rather slowly, for the early builders had many problems to solve and their work was largely experimental. These early roads were built out from the centers of population, especially near Philadelphia, New York, Boston, and Baltimore, in order to reach as large a tributary territory as possible. By 1840 the railway mileage of the country had reached 2818 miles,

but most of the roads were disconnected, short lines, similar to the early electric railways. The Charleston and Hamburg railroad, which was 137 miles in length, was the longest line under one management in the world when it was opened for traffic in 1833.

The construction of these early roads was necessarily experimental and mistakes were frequently made, some of which proved very costly to the investors. The first rails were wooden beams, placed lengthwise or end to end, and bolted to granite or wooden piles. To protect the wooden rails from wear, a strap of iron was nailed on the upper surface, but this had an unfortunate habit of coming loose and curling up at the end; accidents were frequently caused by such a "snakehead" derailing a train. An important improvement was the substitution of iron rails for this transitional type, which began in the United States about 1844. This permitted heavier loads and greater speed, both of which were made necessary by the existence in the United States of bulky, heavy freight and long hauls.

English locomotives were at first imported, but were found to be too heavy and otherwise unsuited to American conditions, so American engineers soon began to build their own. The first steam locomotive in this country, of which there is a reliable record, which carried people on a track, was built by John Stevens at Hoboken in 1825, but this was purely experimental. The first American-built locomotive used practically was the *Best Friend*, which was put in operation on the Charleston and Hamburg railroad in 1830. The same year Peter Cooper's engine, *Tom Thumb*, was introduced on the Baltimore and Ohio, which now turned definitely to steam as a motive power. In 1831 the principle of the swivel truck was applied both to passenger cars and locomotives, so that these could round curves more easily. A decade passed before locomotives were fitted with cabs.

Original methods attended also the construction of railway cars. At first stagecoach bodies were placed on flanged wheels, but gradually the American type of passenger car, with end doors and a central aisle, was developed. Different gauges were at first adopted by the different roads,

varying from four feet three inches on the Delaware and Hudson to six feet on the Erie. This lack of uniformity necessitated transshipment of freight, since cars could not pass from one road to the other. As the through freight and passenger business developed it became necessary to agree upon a uniform gauge, and in the fifties the "standard" gauge of four feet, eight and one-half inches began to be adopted ; but there were still eleven different ones in 1861.

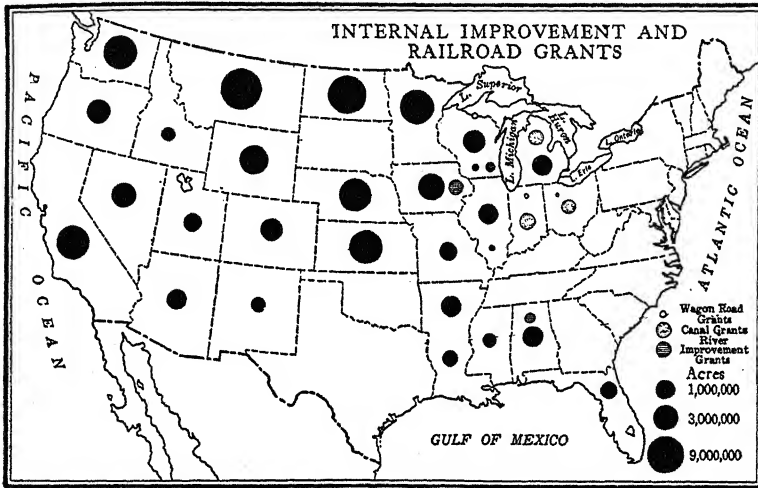
Owing to causes already enumerated, railroad-building was left in the hands of private individuals or corporations, especially the latter. For these novel, untried, and risky enterprises the corporation with limited liability was well adapted, and the financing of the railroads was materially aided by the development of this form of business organization. Difficulty was experienced at first in obtaining capital, due to ignorance and prejudice. These are illustrated by an incident related by Senator Oliver H. Smith of Indiana.⁸ His opponent in the campaign of 1826 avowed himself in favor of the new-fangled device, saying, "I tell you, fellow citizens, that in England they run the cars 30 miles an hour, and they will yet be run at a higher speed in America." This was enough. . . An old fellow standing by me bawled out : 'You are crazy, or do you think we are all fools ; a man could not live a moment at that speed.' The day was mine."

But more difficult to overcome than popular distrust was the hostility of vested interests, such as the turnpike and bridge companies, stage lines, and canals. In New York, where the Erie Canal was a state enterprise and competition was not desired, the legislature prohibited any railroad from carrying freight ; in 1844 the law was amended to permit the carriage of freight when the canal was closed, but not until 1851 were the railroads freed from these restrictions. In spite of opposition, however, capital was subscribed and the roads were built ; American capital was more adequate for the task and between 1850 and 1860 over \$1,250,000,000 had been invested in railroads.

State aid to railroads.—Although the states did not en-

⁸ *Early Indiana Trails ; and Sketches* (Cincinnati, 1858), 80.

gage directly in the construction of railroads, they gave valuable assistance by subscriptions to stock, loans of state credit, and guarantee of railroad securities. Every region and community was anxious to obtain the benefit of railroad connections and clamored for their encouragement. Ohio in 1837 authorized "a loan of credit by the State of Ohio to Railroad Companies," amounting to one-third of the capital, provided the other two-thirds had been otherwise sub-



[From Hibbard, *History of Public Land Policies*]

scribed, while Indiana went still further in permitting railroad corporations to issue paper money to pay for labor or material. The national government was also called upon for assistance, which it refused to give directly but found a way to bestow by making lavish land grants to the states, which they promptly passed on to the railroads. The first of these land grants was a gift by the federal government to the states of Illinois, Mississippi, and Alabama of alternate sections six miles on each side of the proposed Illinois Central Railroad from Chicago to Mobile. Similar gifts were made to Michigan, Wisconsin, Iowa, Missouri, Arkansas, Louisiana, and Florida. By 1861 there had been granted for internal improvements, mostly railroads, 29,820,337 acres.

Although these methods succeeded in stimulating railroad building they prevented any orderly development in accordance with actual needs and resulted in speculation and extravagance. Railroads were built hastily and cheaply, in advance of traffic demands, in order to obtain the land grants, and then were sold to their stronger competitors or went into bankruptcy. Men who had constructed roads with their own capital could not fail to object to being forced into ruinous competition with these subsidized roads, but the undeveloped West clamored for transportation facilities at any cost. The rampant individualism of the times was not restrained by social or long-view considerations, and each district and generation sought to realize its own immediate aims without regard to the future.

Railroad building.—As a result of the demands of commerce and of the public encouragement thus given the railway net spread rapidly through the United States. For a while railroads were regarded primarily as feeders to the lakes and rivers, or as connecting links between the lakes and the Atlantic seaboard, but gradually they developed a serious rivalry to the older transportation agencies. The carriage of coal over the Reading Railroad in competition with the Schuylkill Canal, and of flour over the New York Central in competition with the Erie Canal, showed the economic possibilities of the railway in the solution of the problem of cheap freight movements. In 1840 there were only 2818 miles of railroad as against 1076 miles of canal, but during the decade 1840-50 building was rapid, especially in New England and the middle states, and by 1850 there were 9021 miles of railroad in the country. In the next decade the middle and south Atlantic states developed their transportation systems on much the same lines as they exist at present, while the then western states, between the Alleghenies and the Mississippi, entered upon an era of rapid construction. Through lines were now projected by far-sighted railway promoters in order to reach the mid-continental traffic. New York was connected with Chicago in 1853, and the following year the Mississippi was reached. In 1855 St. Louis was given through rail connection with New York, and the building of lines into the northwest

was begun, one of which reached the Missouri River in 1858.

It must not be thought, however, that the South sat idly by while this development was taking place in the North. In 1845 a convention was held at Memphis to discuss the building of through railroads from Savannah, Charleston, Wilmington, and Richmond on the coast to New Orleans, Vicksburg, and Memphis on the Mississippi River and to Nashville on the Cumberland. But, in spite of grandiose plans, Chattanooga, on the Tennessee River, connected with Atlanta in 1850, was the westernmost point reached before the Civil War. The western trade was lost to the South, which was now more isolated than ever. The total railroad mileage of the country in 1860 was 30,626, or more than three times what it was ten years before.

Economic effects of the railroads.—The economic results flowing from this introduction of a quicker transportation agency and from its rapid spread throughout the eastern half of the United States were startling in range and intensity. While in 1830 it was thought that canals would always be preferred to railroads, by 1860 the latter had completely demonstrated their superiority. This was not achieved without a struggle for the railroad was considered by many as undemocratic and monopolistic in contrast with the open road and even the canal. Engineering and geography were on the side of the railroad, however, and when once the railway net was connected its superiority was clearly demonstrated.⁹

The turnpikes and canals had simply followed natural geographical routes of travel. They had made communication easier than it had been by the common roads, and had greatly increased the traffic between the different sections of the country. The canals had supplemented the rivers and connected these and the lakes, and together furnished a splendid system of transportation, but the main current of trade was still north and south; something better was needed if the growing West was to be brought into close

⁹ For an account of the competitive struggle between canal and railroad see E. L. Bogart, *Internal Improvements and State Debt in Ohio* (New York, 1924), pp. 92-104. See also the discussion of the relative merits of canals and railroads in Bogart and Thompson, *Readings*, pp. 396-403.

touch with the East. It remained for the railways to break down the old sectional barriers and to divert the industrial development of the country into new channels. They were built east and west, they crossed the mountains and united parts of the country hitherto separated. With the introduction of the railway the country entered upon an entirely new phase of development.

A new sectional alignment was now created, which joined East and West, but isolated the South. Railroads were followed by banking and credit accommodations which strengthened the bonds of common interest. The South, on the other hand, was swinging away from the center of American economic life and finding in England the best market for her cotton and for the purchase of cheap manufactures. Thus transportation contributed to the sectionalism which led to the Civil War.

The interior markets were small because most of the people settled there were producing the same things and did not carry on exchanges among themselves to any considerable extent. The interior producing areas, mostly agricultural, could not consume their own output, and hence sought outlets on the seaboard or in Europe. The very homogeneousness of pursuits rendered the interior markets small. This fact, coupled with the enormous distances which separated different sections, made a cheap and quick means of transportation indispensable to the full development of the resources of the country. Had it not been for the railway the full development of the Far West, and of other parts of the country, untouched and inaccessible by river or canal, would have been impossible.

But the railroad did more than emancipate transportation from topography ; it also released commerce from the limitations of climate. Water traffic had depended on the seasons, and winter had stopped canal and river traffic in the North as completely as it did agriculture. When commerce ceased, industry slackened, labor was thrown out of employment, and capital lay idle. The greatest benefit conferred by the railroad was probably continuity of service, though directness and speed were also important ; compared with water routes, transportation by rail was more expensive, but

this disadvantage was more than offset by the other three advantages. In the transportation of the growing commerce railroads became constantly more important, steadily encroaching on the canal and river trade until in the late fifties rail transportation took the lead; in 1860 it was estimated that the railroads carried two-thirds of the total internal trade.

The influence of the railroads in developing the West, in building up its population, and in moving its produce, was enormous. "The railway," exclaimed the English traveler Stirling in 1857, "is the soul of western civilization." About 1850, Henry C. Carey wrote: "Twelve years ago the fare of a passenger from Chicago, Illinois (by lake and rail to New York City), 1500 miles, was \$74.50. It is now but \$17. . . Twelve years since the cost of transporting a bushel of wheat from Chicago to New York was so great as effectually to keep the grain of that country out of the market. Now a bushel of wheat is transported the whole distance, 1500 miles, for 27 cents. A barrel of flour can be transported from Chicago to New York for 80 cents." Indeed, it may be said that without the railroads the swelling stream of western produce, of eastern manufactures, and of westward migration of the population could not have been cared for. But the railroads did even more, for they led to the economic specialization of the United States in a growing world economy. The West took its place as the granary of Europe as the South did in supplying the raw cotton for the developing textile trades. The growth of exports of grain and of cotton during this period is evidence of these facts.

Improved means of communication.—Step by step with the development of better transportation facilities went improvements in means of communication. Probably the most important event of this whole period, after the invention of the steamboat, was the invention of the electric telegraph. Although Professor Joseph Henry of Princeton College had successfully experimented with the magnetic telegraph, the honor of making a practical success of it belongs to Samuel F. B. Morse. As early as 1832 he was experimenting with a plan of telegraphic communication,

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and after vainly endeavoring to interest private capitalists he exhibited his invention in 1838 to congressional committees in the hope of obtaining government aid ; in 1843 Congress voted him an appropriation of \$30,000 to establish a line between Washington and Baltimore, which was put into successful operation in June, 1844. Its practicability assured, there was now no difficulty in persuading men of its usefulness, and a rapid expansion set in. By 1860 about 50,000 miles of telegraph were built in the United States, connecting all the important cities of the Union ; the system was extended to San Francisco the following year.

The postal system was also improved and extended during this period. The speed and safety of the service were of course intimately linked up with the development of the transportation agencies ; with their improvement the time of carriage was steadily reduced. At the same time charges were lowered. During the earlier part of this period postage was calculated according to the distance carried and the number of sheets, and was paid by the recipient of the letter. Thus, the act of 1816 charged 6 cents for a letter of a single sheet carried not more than thirty miles ; for more than four hundred miles it was 25 cents. If the letter was composed of two sheets, the charge was doubled, etc. In 1845 the rates were reduced and simplified, being made 5 cents for a letter not exceeding one-half ounce for a distance of three hundred miles, and 10 cents beyond that distance. In 1850 a flat rate was introduced for all letters, but not until 1863 was the charge reduced to 3 cents. Postage stamps were not authorized until 1847. Along with these changes went an enormous expansion of service. Between 1791 and 1859 the number of post offices increased from 89 to 27,977 and the annual service miles from 846,468 to 86,308,402.

The number of newspapers expanded rapidly during this period, owing to mechanical improvements in the printing press—the cylinder press was first operated in 1847—and in the manufacture of paper, as well as to the spread of education. In 1860 there were nearly 400 daily newspapers issued in the United States and no less than 3266 daily, weekly, bi-weekly, and monthly papers, aggregating some

10,000,000 copies. The influence of the improved postal service, of the telegraph, and of the cheap and democratic newspaper can scarcely be overestimated. Its effect upon the intellectual development of the people can hardly have been less than that of the steamboat and the railroad upon their industrial and commercial expansion.

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CHAPTER XIV

DOMESTIC COMMERCE AND EXCHANGE

Early commerce.—Commerce or the exchange of goods is based upon differences among regions in respect of climate, natural resources, or production, which gives to each section a relative superiority in the production of particular goods. There is little exchange between two districts which are similar in location and products. During the colonial period the liveliest trade was carried on between the New World with its stores of natural wealth and the Old World with its manufactured goods. And in the New World trade developed between the colder northern colonies and those further south, especially the West Indies, based upon climatic differences and diversity of products. One result of the Revolution was to cut off a part of the West India trade, and after the end of the Napoleonic wars this was nearly denied to us. At the same time transatlantic markets were partially closed to our products and we were thrown back on our own resources. A new emphasis was thus placed upon domestic or internal trade, which, moreover, was assuming a new importance.

The key to the expanding and ramifying domestic commerce of this period is to be found in the extension of the market. At first internal trade was slight and confined to limited areas, for sources of production, whether agricultural or manufacturing, were dispersed and operated in small units, and markets were consequently small and local. Before trade could become important in our national life industry would have to take on larger dimensions and broader markets be opened. The first step in this development was the westward movement of the population which dispersed the people over an immense area, both north of the Ohio and to the southwest. The commercial significance of this movement

lay not so much in the increase in population as in the opening up and settlement of new regions, whose products and wants were different from those of the older states east of the Alleghenies. These latter had grown in numbers, wealth, and culture during the previous two hundred years and represented a higher stage of economic progress than the raw pioneer settlements on the Ohio or in the cotton lands to the south. In these differences was to be found the economic basis for domestic trade.

The spread of settlement and the growth of population tended to enlarge the market about any center of production, which process was accelerated by the increase in wealth and the rising standard of living. But a limit was set by the high cost of transportation. This tended to the dispersion of industry and the growth of many small centers each with its own local market.

There were thus two contradictory forces in operation. The spread of settlement created new sources of production and new consumers' markets and tended to enlarge the scope of internal trade ; but the high cost of transportation had the effect of confining the trade of each new section within narrow limits. Improvements in transportation and cheapening of costs, however, in turn widened the markets and permitted a more distant flow of goods. The process was like that of making a chain by adding link after link, until finally the whole country was bound together by a network of commercial interchanges.

The domestic commerce of the country had from the beginning certain well-defined currents, which give the key to the commercial history of this period. There was first the East-West trade, which underwent great changes as the pack-horse was supplanted by the canal boat and steamer, and these in turn by the railroad. The second branch was the West-South trade, which remained throughout this period a river traffic. The third was the East-South trade, which was largely carried on along the coast. And finally there was the overland trade to the Far West.

East-West trade.—At the beginning of this period most of the surplus products were agricultural, and these sought a market in the seaport towns where they were exchanged for

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imported manufactures. Philadelphia, New York, Boston, and Baltimore were important collection points for meat, grain, flour, lumber, and fish, and from them were distributed wares of various sorts. As the westward movement proceeded the sources of agricultural supplies became more scattered and more numerous, and at the same time domestic manufactures were developed in the East which steadily became more adequate to meet home demands. The industrial workers in the growing factory towns now consumed in considerable part the foodstuffs and other agricultural products which had previously gone abroad and for them exchanged domestic textiles, iron wares of various sorts, and other manufactured goods. This trade steadily lengthened as the frontier receded, reaching the western parts of the Atlantic states at the beginning of this period and the Mississippi Valley and beyond by 1860.

Until improved and cheap transportation was available distant commerce was held down to the minimum. A few products, like furs, hides, and ginseng, which could stand the high charges of land transportation, were sent east by pack-horses or wagon, while hogs, cattle, and horses could be driven over the mountains since they carried themselves to market at a minimum cost. Baltimore and Philadelphia were the markets for western livestock, which was slaughtered there and formed the basis for further trade in provisions and in hides for the leather trade of New England. Observers on the highways leading across the mountains reported herds of cattle numbering several hundred and droves of four thousand to five thousand hogs; it was estimated that one hundred thousand hogs were driven east yearly from Kentucky alone. Drygoods, firearms, small metal articles, and other light and valuable commodities were sent back in return over the mountains by wagon. The English traveler Birkbeck reported in 1817 that he had counted twelve thousand wagons carrying goods from Baltimore and Philadelphia to Pittsburgh, on which the freight alone was £300,000.

The building of the Erie Canal had as momentous an effect upon the East-West trade as the introduction of the steamboat on the western rivers had upon the North-South traffic. In 1818 it cost \$5.56 per hundredweight to freight

goods from New York to Louisville, but when the Erie Canal was opened, rates from New York to Columbus, a comparable distance, fell to \$2.50 per hundredweight. The first effect of these changes was to hasten the settlement of the West, into which a perfect stream of settlers poured. At the same time much of the western produce, which had formerly gone down the Mississippi, now sought a better market on the Atlantic seaboard. The commerce between the East and West assumed importance only after the trunk canals had provided continuous water passage from the growing western country to the Atlantic seaboard. Prior to 1835 practically all the eastbound traffic of the Erie Canal originated within the state of New York itself, and not until that year did western produce in large quantities find its way by canal to eastern markets; but by 1840 grain was being shipped east from Ohio, Indiana, Michigan, and Illinois, and in the following year wheat was sent for the first time from Wisconsin. Grain and flour were the principal articles moving eastward, but large quantities of pork, bacon, and other provisions were also shipped. The lumber trade was large but such western products as livestock, hides, wool, and whisky were never important. Iron ore in quantity appeared only at the end of the period, together with some copper. The westbound shipments consisted of manufactured goods, such as drygoods, boots and shoes, hardware, nails, machinery, paper, cordage, bagging, earthenware, articles of tin and copper, medicines, drugs, sugar, and coffee, tea, fish, salt, and general merchandise. When the Erie Canal was opened in 1825 it was at first employed to convey emigrants and their supplies westwards, and whenever emigration was heavy furniture appeared as one of the westbound shipments.

Commercial cities sprang up at strategic points along these routes. New York City leaped farther ahead of its rivals and attained a pre-eminence which it has never since lost. Buffalo, the chief point of transshipment between the canal and the lakes, did an enormous business and grew rapidly in population; by 1860 it was the second city in the state with a population of 80,000. Cleveland, at the head of the Ohio Canal, handled a growing trade in general agricultural produce; Toledo, the terminus of the Miami and Erie Canal

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and of the Indiana system, was primarily a grain port; Detroit added to her early trade in furs a later one in grain and lumber. But Chicago, strategically situated at the end of Lake Michigan, showed the most phenomenal growth; boasting a bare hundred people in 1829 when it was laid out, by 1860 it had a population of 109,000. It was the largest primary grain market in the United States, its receipts exceeding those of all the other grain markets combined; it also handled other agricultural products such as flour, lumber, meat products, and similar items.

Effects of the railroads.—The railroads enormously stimulated the trade carried on between the East and the West. The north central states increased greatly their shipments of grain, for there developed a growing European as well as eastern demand, especially after the repeal of the British corn laws in 1846. The definite shift in economic interests in the eastern states from agriculture to manufacturing created a home market not only for foodstuffs but also for agricultural and mineral raw materials. The products sent east from the western states by rail were not very different from those already enumerated as going by the Great Lakes and the Erie Canal: livestock, flour, and grain were the most important items. The westbound shipments consisted of manufactured goods, such as drygoods, boots and shoes, hardware, nails, machinery, paper, and articles of tin and copper, medicines, drugs, and general merchandise. These were smaller in volume than the eastbound shipments but were of greater value, a feature which has always been characteristic of the traffic between these two sections. For instance the total east-bound tonnage on the New York Central in 1859 was 571,000 tons and on the Pennsylvania 176,000 tons, while the west-bound was 263,000 tons and 100,000 tons respectively.

West-South trade.—The early trade of the newly developing West was for the most part not with the East, but with the South. Water furnished the easiest and cheapest avenue of transportation and nearly all of the produce of the western settlements that found its way to market was sent down the Mississippi by flatboat to St. Louis or New Orleans. But there was little demand in those cities prior

to 1816 for agricultural products, and most of these had to be reshipped to the Atlantic seaboard, the West Indies, or Europe. In that year the total value of the river produce received at New Orleans was only \$8,773,000. The shipments were at first raw agricultural products like corn, hay, and livestock, then articles like pork, bacon, lard, flour, whisky, and others that required some process of treatment, and finally simple manufactured articles, such as bagging, rope, twine, candles, glass, nails, and iron. They tell the story as well of the industrial advance in the Ohio and upper Mississippi valleys as of the growing commerce between the sections.

There were probably two million people living west of the Allegheny Mountains in 1816, but the small number engaged in commerce is well shown by the size of the chief commercial towns. New Orleans, which was the largest and most important city of the Southwest, contained 24,562 inhabitants in 1810, and Pittsburgh, the head of the river navigation and already the leading center of manufacturing in the West, had only 4768. Lexington, which carried on nearly all the commerce of Kentucky and Tennessee, had 4326; and Cincinnati 2540. The commerce exchanged among these communities was still so slight that it could not engage the labors of a large proportion of the population. Little as the early traffic was downstream, it was still less upstream. "Previous to the adoption of the steamboat navigation," wrote Hall,¹ "the whole commerce, from New Orleans to the upper country, was carried in about twenty barges, averaging one hundred tons each, and making but one trip per year. The number of keelboats employed on the Upper Ohio could not have exceeded one hundred and fifty, carrying thirty tons each, and making the trip from Pittsburgh to Louisville and back in two months, or about three voyages in the season. The tonnage of all the boats ascending the Ohio and Lower Mississippi was then about six thousand five hundred." Most of the crude craft that floated down the rivers to New Orleans were sold there, while the crews took passage for some eastern port or found their way back home on foot. Until the revolution effected by the

¹ James Hall, *The West: Its Commerce and Navigation* (Cincinnati, 1848), 168.

steamboat, the West showed little commercial development; a growing population found easy subsistence on a fertile soil, but they had as yet little in the way of surplus products to sell and no important markets.

Changes in the Mississippi trade.—The railroads brought about a decided change in the flow of internal commerce among the different sections of the country. The river trade which has just been described was gradually diverted until it was completely destroyed by the Civil War. It is true that the Mississippi trade continued to increase and the shipments directed to New Orleans reached their highest point in 1860, but this was due to the expanding commerce of the lower Mississippi Valley. The receipts at New Orleans of typically western produce showed a great decline; thus, between 1830 and 1860, flour fell off from 482,000 barrels to 282,000, lard from 177,000 kegs to 4000, and pork from 5,100,000 pounds to 610,000. Of the total receipts at New Orleans probably less than 15 per cent consisted of western agricultural products at the latter date. Their place was taken by produce raised around St. Louis, which was now being settled by immigrants, especially Germans. The upper valley was itself undergoing significant changes and instead of agricultural products began to send western manufactures and coal from Pittsburgh, Cincinnati, and Louisville to the southern markets.

The return commerce upstream also changed in character. There was a lively trade in supplying the needs of planters in Louisiana, Mississippi, and Alabama with agricultural produce which had been brought downstream, and with manufactures and imported goods which came from the East or abroad, for all of which New Orleans was the great distributing point. The region north of these states bought their coffee, sugar, molasses, and West India fruits from New Orleans, but obtained their eastern manufactures and supplies more directly by rail, except sometimes heavy iron articles which could still be shipped more cheaply by the longer all-water route. After about 1853, when through rail connection was made between Chicago and the Atlantic seaboard, transportation charges were lower from the upper Mississippi Valley to the East than to the South, and consequently the

trade of this region was shifted to the market which could be reached more cheaply. Other factors, too, were important in diverting this trade even before the Civil War brought it to a practical end.

The trade of the upper Mississippi Valley, roughly as far south as St. Louis, had always labored under handicaps which became positive detriments when rail routes to the East were opened. Transportation by river had always been dangerous on account of the obstructions to navigation, in the form of sand-bars, snags, and low water. Cases were noted where the increase in rates, due to low water, was as much as 150 per cent.² In the winter the upper Mississippi was closed by ice. But the physical handicaps were aggravated by the primitive and expensive methods used in handling commodities, especially grain; the steam elevators, warehouses, and loading machinery which were making Chicago the greatest primary grain market in the country, were utterly lacking in New Orleans. It was, moreover, difficult to ship western produce beyond this city or to obtain return shipments from the East or from Europe. Until the construction of the jetties in 1879, only vessels of light draft could ascend the Mississippi River to the wharves; consequently only sailing vessels engaged in the trade between New Orleans and Atlantic coast cities.

St. Louis occupied a strategic position and profited rather than lost by the shifts in the currents of trade. At first a river city only, she participated in the river traffic both up and down stream. When rail connection was effected with the East in 1855, she obtained her share of that. St. Louis was the point of concentration for the agricultural produce of much of Illinois, Iowa, Kentucky, and Missouri, and was a point of distribution of eastern manufactured goods and of the semi-tropical products from the South. And through it all she was the point of departure for the growing overland trade. St. Louis was the principal depot of the fur trade and handled more furs than any other American city.

East-South trade.—Still another current of trade was that between the East—or North—and the South, and this

² G. W. Stephens, "Intersectional Rivalry for the Commerce of the Upper Mississippi Valley," in *Washington Univ. Stud.* (St. Louis, 1923), X, 286.

like the other two currents already described, flowed mainly in one direction. The main products of the South, at least those which entered the markets for exchange purposes, were the staples, cotton, tobacco, and rice. The chief market for these was Europe, especially England with her great textile mills, which took over half the cotton crop. A much smaller proportion went to New England. The foreign trade was triangular, based on southern ports, Europe, and New York. Otherwise ships carrying cotton to Europe would have returned only partly loaded. The reason for this was that the South bought so largely of the West and met its debts to that section indirectly with the proceeds from its exports.

The marketing of southern cotton and other staples was almost entirely in the hands of northern merchants and these products flowed through northern ports. "A temporary class of northern merchants and laborers occupied the port towns while the cotton was being shipped, moving northward thereafter, while during the greater part of the year the factors acted as importing agents."³ These facts constituted a constant grievance on the part of southerners, but they were an integral feature of the territorial and functional division of occupations which was developing in the United States. Not merely did northern factors handle the cotton and tobacco, but they supplied the South with manufactures and other wares of which some originated in the North and the rest were imported through northern parts and distributed southward by the coastwise trade.

In the trade described the older states in the South, as Virginia, Maryland, and Delaware, and perhaps North Carolina, seemed to have no share. In two ways, however, they contributed to the stream of domestic commerce and shared in the profits of this trade. Between these states and the northern ports there existed a profitable coastwise trade, carried on by northern vessels, which conveyed New England fish, drygoods, boots and shoes, furniture, and other manufactures to the South to an amount of over \$100,000,000 a year. In return they took back cargoes of southern staples,

³ F. A. Shannon, *Economic History of the People of the United States* (New York, 1934), 361.

cotton, tobacco, and also foodstuffs, hay and other agricultural commodities, both for export and for domestic consumption. To the lower South these states sent their surplus slaves, which in time became very much more valuable in the cotton fields than on the worn-out tobacco lands.

Territorial division of occupations.—Until the development of adequate transportation facilities permitted the interchange of products among different regions a self-sufficient family economy prevailed, which gradually widened into a neighborhood economy. A national commercial organization was possible only after the building of railroads. But a national commerce involved sectional specialization and interdependence.

The previous paragraphs have described such a sectional or territorial division of labor, according to which the South produced those staple crops for which it was best suited (mainly for export), the West raised foodstuffs and other agricultural supplies, and the East devoted itself to manufactures and commerce. This territorial division of occupations through concentration on specialized lines of production in the three great sections of the United States permitted each to employ its facilities to the best advantage and to exchange its surplus products with those of the other sections. The trade in each case, however, was a somewhat one-sided one and did not at first lead to close economic interdependence; the East sold more to the West than it bought from it, the West sold largely in excess of its purchases to the South, and the South exported three-fourths of its crop to England but bought most of its manufactures from the East.

There was thus again a circular trade that moved like the reversed hands of a clock, similar to the triangular trade which during the colonial period was carried on between the northern colonies, the West Indies, and England.⁴ Toward the end of this period, however, the triangular pattern was sadly disarranged, for the rail connections tended to divert much of the western produce to the East rather than to the South.

Trans-Mississippi trade.—The final branch of internal trade which developed during this period owed its existence

⁴ See page 127.

neither to the steamboat nor to the railways; this was the commerce of the plains carried on west of the Mississippi. The explorations of Lewis and Clark revealed the opportunities of this western country and fur traders soon pushed west from St. Louis as far as the Rocky Mountains. Other traders ventured into the far Southwest, and by 1840 practically all the western fur-bearing country was being exploited. The value of the furs received annually at St. Louis was about \$529,000 and at New Orleans about \$480,000. But the fur traders were only the forerunners of established commercial intercourse. After Mexico had won its independence in 1821 trade with the old Spanish town of Santa Fé was opened and the Santa Fé trail was beaten into a broad pathway of commerce. After the settlement of the Mormons in Utah the Salt Lake Trail saw a new line of western trade, and still later the mining camps in Colorado and other states called for supplies of goods which were freighted there by wagon. The discovery of gold in California gave a new stimulus to far western migration, but most of the supplies for these distant camps were conveyed by ocean-going vessels rather than across the plains. By 1860 the merchandise shipped west of the Missouri River was valued at \$10,500,000. Kansas City was the center of most of this trade, but other towns like Leavenworth, Atchison, St. Joseph, and Omaha were springing up. The development of these western trade routes was full of romance and danger, but the real settlement of this country had to wait for the extension of the railroads after 1860.

While this commercial specialization was largely economic, the political factors which favored this development must not be overlooked. The influence of the tariff, in shutting out foreign products, in part at least, reserved this growing domestic market for home producers. Much more important was the guarantee by the Constitution of general freedom of trade from one end of the United States to the other. The experience with hostile and retaliatory tariffs among the different states during the period of the colonies and of the Confederation had shown the dangers that lurked in such a system, and all political barriers to interstate commerce were swept away in 1789. This was an enormous boon. Only

slightly less important was the grant of free navigation of all navigable rivers, though this was not in fact realized until 1824. But by then the political and physical foundations for the expansion of our internal commerce were firmly laid. Its growth from this time corresponds with the economic development of the people.

Importance of the domestic trade.—The internal commerce of the country steadily became more important than the foreign trade during this period. The relation between these two branches is indicated by a statement of Secretary R. J. Walker, in his treasury report for 1847–48: “The value of our products exceeds three thousand millions of dollars. . . Of this \$3,000,000,000 only about \$150,000,000 are exported abroad, leaving \$2,850,000,000 at home, of which at least \$500,000,000 are annually interchanged between the several states of the Union.” In an estimate for 1851–52, Andrews⁵ put the amount of the internal trade at a much higher figure; he calculated that the commerce on the lakes amounted to \$157,000,000, that on the rivers to \$170,000,000, on the canals to \$594,000,000, and on the railroads to \$540,000,000, or a total of \$1,461,000,000. By 1860 it must have been over \$1,500,000,000. As giving further light upon this vexed question the census figures of the number of retailers in the United States in 1840 may be cited. In the census of that year was made the only attempt to collect data on this subject prior to 1930. This showed that there were 57,565 retail stores with a total capital of \$250,302,000, over half of which were found in the five states of New York, Pennsylvania, Ohio, Mississippi, and Virginia. This was one store for each 300 inhabitants.

Marketing methods.—Thus far the materials of domestic trade, the currents along which it flowed, and the markets have been described. Marketing methods have generally been neglected by writers on this period, and have indeed only recently engaged the attention of economists. At first there was little distinction between production and marketing. Farmers drove their cattle and hogs or conveyed their grain to the nearest market, or loaded their produce on a New England coasting vessel or an Ohio flatboat and

⁵ I. D. Andrews, *Report on . . . Lake Trade*, 905.

peddled it from wharf to wharf. Connecticut clock-makers interrupted their shop operations when they had completed a small stock of wares and peddled them through the country on pack-horses. This primitive commercial organization disappeared with the introduction of steam navigation and the improvement of waterways, and especially with the development of railways, which gave readier and cheaper access to wider markets. Clark⁶ describes three marketing methods developed by New England textile manufacturers which were also used by other businesses, and may be accepted as typical. These were: (1) consignment on commission, or sale to, wholesale merchants, (2) the employment of a selling agent, and (3) sale—by auction or otherwise—through a selling organization or exchange.

(1) The commission or factor system had been the usual method during the colonial period through which were marketed tobacco, flour, fish, lumber, and other staple commodities. This system, widened to fit the enlarged markets and furnished with ampler capital, now assumed the function of distribution. The factors consigned goods both to wholesalers and to retailers, and received other products in exchange from the most distant points in the West and South.

The wholesale merchant, says Killough,⁷ "was one of the largest and financially strongest business units in America. He assembled a great variety of goods from specialized and scattered manufacturers, and dispersed them in convenient quantities to retailers even more numerous and more scattered than the manufacturers. The wholesaler purchased goods outright from the manufacturers, stored them, and resold them to the dealer. Early in the nineteenth century manufacturing capital was scarce and manufacturing technique was not easily acquired. The manufacturer was content to sell to the wholesaler and on occasions to receive financial assistance from him. The typical retailing establishment was the country general store. It carried all kinds of merchandise."

(2) Peddlers were the second group of distributors. Yankee traders were engaged in this business during the

⁶ V. S. Clark, *History of Manufactures in the United States*, 356.

⁷ H. B. Killough, *The Economics of Marketing* (New York, 1933), 165.

colonial period, peddling socks, mittens, and woodenware with French Canadians on the north, or fish and household manufactures among the tobacco and rice plantations on the south. An interesting account of the manner in which Connecticut tinware was later distributed has been left by Timothy Dwight,⁸ who afterwards became President of Yale College :

"For many years after tinned plates were manufactured in this place [Berlin, Connecticut] into culinary vessels, the only method used by the pedlars for conveying them to distant towns for sale was by means of a horse and two baskets, ballanced on his back. After the war, carts and waggons were used for this purpose, and have from that time to the present been the only means of conveyance which have been adopted.

"The manner in which this ware is disposed of puts to flight all calculation. A young man is furnished by the proprietor with a horse, and a cart covered with a box, containing as many tin vessels as the horse can conveniently draw. . . Each of them walks, and rides, alternately, through this vast distance, till he reaches Richmond, Newbern, Charleston, or Savannah. . . Every inhabited part of the United States is visited by these men. I have seen them on the peninsula of Cape Cod, and in the neighborhood of Lake Erie ; distant from each other more than six hundred miles. They make their way to Detroit, four hundred miles farther ; to Canada ; to Kentucky ; and, if I mistake not, to New Orleans and St. Louis."

A unique and typically American variation of this process of peddling was found in the West, where it was conducted by river boats rather than by horse-drawn carts. This trade usually was carried on during the summer, the goods were stored in Pittsburgh over the winter, and the following spring were sent down the river on trading boats, which stopped at the towns on the banks to sell the articles. In a country so remote from supplies and so sparsely populated by a purely agricultural population, which could not visit the city markets, these trading boats contributed greatly to the convenience of life by bringing to each farmer's door

⁸ *Travels in New England and New York* (London, 1823), II, 43-44.

those small necessities which it would have been troublesome and expensive to have procured otherwise. A picture of this trade is given by Levi Woodbury, who made a trip down the Mississippi in 1833 :

"At every village we find from ten to twelve flat-bottom boats, which besides corn on the ear, pork, bacon, flour, whiskey, cattle and fowls, have a great assortment of notions from Cincinnati and elsewhere. Among these are corn brooms, cabinet furniture, cider, plows, apples, cordage, etc. They remain in one place until all is sold out, if the demand be brisk ; if not, they move farther down. After all is sold out they dispose of their boat, and return with the crews by the steamers to their homes."

In course of time, as the plantations grew larger, this method of peddling from wharf to wharf declined. The planters engaged agents at New Orleans to sell their cotton and to purchase supplies, which were shipped upstream by steamer. After about 1846 there was a gradual decrease in the number of flatboats, and by 1860 they had ceased to be a factor in the river trade and were no longer listed among the arrivals at New Orleans. The high price of lumber made their further use impracticable.

(3) The third method, that of periodic sales by auction or otherwise, was used only in the better organized industries. Semi-annual markets were held in Boston for the sale of American manufactures, especially cloth and shoes ; sales amounted to as much as \$2,000,000 for a single session. Similar markets were held monthly in Philadelphia. Auctions were frequent in New York and were held occasionally in the South.

(4) Still another method may be mentioned by which eastern merchants disposed of their wares—that of establishing branches in the western and southern territory. Such branches would give settled connections and promote trade. This was particularly true when goods had to be bartered, for only a few eastern manufacturers commanded ready money.

Since it took so long to complete transactions of this sort, long credits were customary, of from nine to twelve months. Collections were generally slow, a widely accepted maxim

being to the effect that in hard times it was unwise to push one's debtor too hard. And since the balance of trade usually ran against both the West and South the specie was drained off to the East, just as during the colonial period it had been drained off to England in payment of commodities more urgently needed.

By these and other methods American products were conveniently distributed to all parts of the country. The dispersed and unorganized local centers were gradually knit into a national marketing system, with adequate commercial machinery. Banking and credit institutions grew in response to commercial needs, insurance companies came into being, the express business was born to meet a new demand, and in many ways commerce adjusted itself to the requirements of a growing and changing industrial structure.

Retail trade.—The description of marketing methods just given was confined for the most part to wholesale distribution, but the retail trade showed some interesting developments. The sale of goods direct to consumers was carried on by importers, peddlers, marketmen in the public markets, craftsmen, and manufacturers, but retailing proper was conducted in stores or shops. Of these the most typical, and indeed in many localities the only one, was the general store.

The general store seems to have developed from the trading post. In sparsely settled communities the trade was able to support only one store, but this had to carry a general assortment of goods to meet the varied demands. In spite of the great variety the stock was usually small. The function of such a general store was largely that of intermediary in a system of barter, which was rendered necessary by the scarcity of money. Local produce was accepted in payment for the goods and was sent down the rivers to commission merchants at New Orleans. By the fifties the produce collected by the general store was generally shipped to a produce merchant in one of the commercial cities. Some articles, however—the so-called “cash articles”—were sold only for money; such were tea, coffee, leather, iron, powder, lead, and such things as the merchant himself had to purchase with cash. A few articles were ac-

cepted in trade at their cash value, such as linen, cloth, feathers, beeswax, and furs, which were in general demand and easy to transport ; but most country produce was taken at a heavy discount.

The general store was more than a place of retail trade ; it was also a social institution. This aspect is well described by a competent writer.⁹

"The general store is perhaps the most typical American development in merchandising institutions, since very few like it are to be found anywhere else in the world. The old-time general store distributed drygoods, hardware, groceries, drugs, and even liquors. It was frequently the location of the post-office, and served as the village social center for the men. The old box stove, the rickety chair or two, the nearby barrels, and the sawdust spit box, were the almost universal furnishings that equipped it for its social services. Here politics, religion, and neighbors were discussed. It may not be too much to say that here the tariff question, the government bank, internal improvements, foreign policies, and other important government matters were ultimately settled. Certainly statesmen had to reckon with the forces of public opinion generated and cultivated around the stove of the country store. With all its inefficiency, its wasteful methods, and its shortcomings, as a retail establishment, it must be said that it successfully served its day as probably no other type of institution could. Many general stores still exist and will for years to come. But with increasing density of population and a rising standard of living, the general store as such must give way to other types of retailing institutions."

One other phase of commerce may be mentioned—accounting. Although today it is so important, in the period before 1860 it was still in a very primitive stage. The best bookkeeping in this period, as judged by the text books of the day and such old business records as have been preserved, was limited to very simple double entry. It was occupied mainly with keeping accounts with personal debtors and creditors for goods and loans. Very little was done in the direction of analyzing the merchandise into lines or departments. Profits were calculated in a single merchan-

⁹ P. H. Nystrom : *The Economics of Retailing* (New York, 1919), 23.

dise account and from separate "accounts in company" (i.e., consignment ventures in temporary association with others). There was little or no analytical subdivision of expense such as plays so important a part in modern managerial accounting. And, of course, accounting for manufacturing (cost accounting) had not yet developed.¹⁰

BIBLIOGRAPHICAL NOTE

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¹⁰ I am indebted for this information to Professor A. C. Littleton, of the University of Illinois.

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CHAPTER XV

BANKING AND CURRENCY

Public credit.—Necessary as were improved means of transportation for conveying the wares of commerce, they were no more important than a safe and adequate system of currency to act as a medium of exchange. No more urgent problems presented themselves to the new government after the adoption of the Constitution than those of finance, both public and private. In the solution of these Alexander Hamilton, the youthful Secretary of the Treasury, determined the policies which were adopted by Congress.

The first problem was that of revenue for the new government, which was met by the enactment of a tariff act and later by the imposition of excise duties. There was next the question of public indebtedness which had been incurred during the period of the Confederation. This was finally settled, in accordance with Hamilton's suggestions, by funding the government debt, which consisted of sums borrowed abroad of \$11,700,000, and of the domestic debt of about \$40,000,000. A more difficult problem was presented by the proposal that the federal government assume the debts incurred by the several states, but this was finally agreed to and \$21,500,000 of state liabilities were added to the national debt. Together with some \$6,000,000 of continental currency which was redeemed at the rate of one cent on the dollar, the total public debt amounted to \$79,000,000. Provision was made for new loans to meet these obligations and for the creation of a sinking fund to pay them.

By these acts public credit was placed upon a firm basis. The passage of these measures was not obtained, however, without a struggle. The industrial and commercial interests, as well as those who saw a chance for profit by speculating in public securities, were united in support of funding and

assumption, while against them were ranged the farmers and planters, the artisans and mechanics upon whom would fall much of the taxation needed to pay off this indebtedness. Only through a political bargain between Hamilton and Jefferson, by which the national capital was to be located on the Potomac, were sufficient votes obtained to carry the measures through Congress.

The next step was to provide for private credit, and for this purpose Hamilton proposed a national mint and a bank. The establishment of a national currency seemed highly desirable, for the discredited Continental currency had ceased to circulate and that issued by the states was greatly depreciated, while the metallic money in circulation was insufficient in amount and was made up of English, French, Spanish, and Portuguese coins of varying denominations and value. The mint act of 1792 provided for a decimal system of coinage, suggested by Jefferson, with the dollar as the unit. The weight of the silver dollar was fixed at 371.25 grains of fine silver and that of the gold dollar at 24.75 grains of fine gold, which made the ratio between the two 15 to 1, that is, the silver dollar weighed fifteen times as much as the gold dollar.

When the mint was established in Philadelphia in 1794, practically no gold was brought to it to be coined, since gold was undervalued and was worth more as bullion than as coin. But some silver was coined, most of the metal presented for this purpose being the imported foreign coins, as no silver mines had yet been opened up in the United States; copper coins also were minted. Our silver dollars circulated freely, not only at home but also in the West Indies on a parity with the Spanish milled dollars, although the latter were about two per cent heavier than the American coins. It did not take the Yankee traders long to discover that a neat profit could be made by taking American dollars to the West Indies, bringing back Spanish dollars, having them coined at the mint, and repeating the process. When Jefferson learned of this exportation he peremptorily closed the mint to the coinage of silver dollars in 1806, and from that date until 1836 no more such coins were minted. This left the metallic currency still a composite mass of foreign

coins, the work of the mint being now limited to the coinage of fractional silver and copper. The amount of metallic money in circulation in 1800 has been estimated at about \$3.00 per capita,¹ which was clearly insufficient for the monetary needs of the country.

The new Constitution contained a provision which forbade the states to "emit bills of credit," and consequently after 1789 no further issues of paper money were made by the states. On the other hand, since the federal government was not specifically authorized to issue paper money, and since it possessed only the powers expressly enumerated in the Constitution, it was assumed that all issues of government paper money had been prevented. But there was a real need in the country for additional supplies of money and the most desirable seemed some form of credit currency which would be more economical and convenient than metallic money. The three banks then in existence were local affairs and did not meet the want.

The First United States Bank.—Partly to furnish a supply of credit money and partly to act as fiscal agent of the government the First United States Bank, modeled somewhat after the Bank of England, was chartered in 1791. This had a charter for twenty years and a capital of \$10,000,000, which was subscribed two hours after the books were open, the government itself subscribing for one-fifth. Its specie reserve of \$2,000,000 was probably a third to a half of all the specie in the country. The Bank was of great service to the government, lending it over \$6,000,000 in the difficult years which followed, and collecting, transferring, paying out, and caring for its funds. More important, however, were the services of the Bank to the people, in providing a safe credit currency and in furnishing banking facilities for commercial transactions. Practically all of the credit currency issued by the banks during this period consisted of bank-notes which entered into general circulation and supplemented the inadequate supplies of metallic money.

The currency expansion furnished easier money conditions, which insured higher prices to producers and especially stimu-

¹ M. L. Muhleman, *Monetary Systems of the World* (New York, 1896), 59.

lated agriculture. During the twenty years of its existence the Bank and its eight branches furnished the business community with needed banking credit in the form of bank notes; these were received as equivalent to specie. By refusing to accept the notes of non-specie-paying local banks the central institution forced these out of circulation and thus regulated the currency. But this very service was seized upon by Congress as a reason for refusing to recharter the Bank when its charter expired in 1811. By this time the number of state-chartered local banks had grown to eighty-eight with note issues of \$45,000,000, and they strongly opposed the recharter because the Bank had compelled them to redeem their notes. Fear was also expressed of the malignant influence exerted by the large amount of foreign capital invested in the Bank—no less than \$7,000,000—and of the “money power” there concentrated. “This institution,” wrote Jefferson, “is one of the most deadly hostility existing against the principles and form of our Constitution. . . . What an obstruction could not this Bank of the United States, with all its branch banks, be in time of war? It might dictate to us the peace we should accept, or withdraw its aid. Ought we then to give further growth to an institution so powerful and so hostile?” Consequently the affairs of the Bank were wound up, and the field was left to the local banks.

The establishment of the mint and of the First United States Bank had given the people a sound national currency, the debt had been adjusted and put in as liquid a form as possible, available for investment or collateral, and the government finances had been put on a firm basis. There was thus provided the foundation for a solid business development. This was now interrupted by disorder in the currency and banking system, which extended to the government finances as well. Forced by the War of 1812 to borrow large sums, Congress found itself greatly embarrassed by the absence of any strong national banking institution, and eventually was forced to turn again to the policy of Hamilton.

Local banks, 1811-1816.—The dissolution of the First United States Bank caused the withdrawal of \$10,000,000 in bank-notes and the export in specie of \$7,000,000 which

had been invested by Europeans in its stock. There was thus a vacuum in the currency of the country which needed to be filled, and this the local banks hastened to supply. Between 1811 and 1816 the number of these institutions grew from 88 to 246. They did not, however, limit themselves to the normal needs of trade, but issued their notes in excessive quantities. Many of these banks were organized with almost no restrictions, for the state legislatures which chartered them had little experience to guide them; and the bank managers knew little of the principles of sound banking. The demand for capital on the part of the mercantile community was strong; the loose credit system of selling public lands in the West led to demands for bank loans in that section; and the financial disorganization and monetary needs of the government and people during the War of 1812 were additional factors leading to inflation.

It must be remembered that bank credit at that time was extended in the form of bank-notes; when a man borrowed of a bank he did not receive a credit deposit and a check book, for deposit banking had not yet been developed, but he was given bank-notes. The expansion of bank loans meant therefore the issue of more bank-notes. If these were issued in excess of the monetary needs of the country, inflation occurred and the notes depreciated unless promptly redeemed. When Washington, D. C., was captured by the British in 1814 all banks except those in New England, which had been conservatively managed, suspended specie payments, that is they ceased to redeem their notes in specie on demand. Relieved of all responsibility, the local banks now increased their issues still more recklessly, a step encouraged by the action of the government in accepting bank-notes in payment of public dues. Add to all this the fact that there was as yet no widespread system of publicity or of knowledge as to the condition of banks or the state of the currency, and it can scarcely be a matter of wonder that the currency was inflated.

Between 1812 and 1817 the bank-note circulation rose from \$45,000,000 to \$100,000,000, most of the increase taking place in the West. The country was now again upon a paper money basis, differing from that of the continental

currency only in that it was now issued by banks instead of by the government. All the old evils appeared, of over-issue, depreciation, and inequality in value. The notes of the New York banks were 10% below par, those of Washington and Baltimore 22%, while in the West some of them fell as low as 50% below par. But, bad as it was, the people were compelled to use this depreciated and fluctuating currency or resort to barter, since there was no other to take its place.

The Second United States Bank.—At this juncture (1816) the Second United States Bank was established. Two reasons were advanced for its organization at this time : (1) it would afford assistance to the treasury, which was financially embarrassed on account of the war ; (2) it would act as a regulator of the currency. The Bank was chartered in 1816 for twenty years, with a capital of \$35,000,000 of which one-fifth was subscribed by the federal government. The circulation was limited to the amount of the capital, and notes were made payable in specie on demand and were receivable in all payments to the United States. It was expected that the circulating notes of the Bank, being redeemable in specie on demand, would compel the local banks to resume specie payments or would drive the depreciated local bank-notes out of circulation.

Unfortunately, however, the Bank itself was very badly managed for the first three years of its existence : only a part of the specie reserve was paid in, the notes were over-issued, and loans made on insufficient security. It consequently contributed to the evils of speculation and reckless banking which characterized this period, instead of reforming them. In 1819 the Bank was almost bankrupt, and was saved from ruin only by the appointment of a new president, Langdon Cheves, and a thorough reorganization. A severe contraction of circulation and loans followed, but, while this saved the Bank, it could not avert the financial storm which had been brewing during years of speculation.

This broke in the crisis of 1819, which was the first general crisis in the United States. Its causes were complex, and bad banking formed only one. In addition may be mentioned the speculation in western lands, the rapid commercial

expansion, and the unstable position of the manufacturing industries which had grown abnormally during the embargo and the war and had afterwards been exposed to foreign competition. At the same time the local banks contracted their note circulation from \$100,000,000 in 1817 to \$45,000,000 in 1819, and thus reduced the credit facilities at the very time they were in most demand. But nothing could have saved these over-expanded institutions. "In 1817-1818 forty banks of issue had been chartered in Kentucky, and Tennessee and Ohio hastened to adopt the same alluring expedient. The banks issued money without stint and loaned to speculators on easy terms. . . Then suddenly, in 1819, the National Bank presented an accumulation of notes for redemption; the state banks, unable to meet their obligations, were forced to suspend specie payment, and the boom collapsed."² Nor was this an unusual case. Specie payments were generally suspended, prices fell disastrously, failures occurred in every part of the country, industries stopped, and many laborers were thrown out of work. A period of readjustment ensued, which continued in some parts of the country for three or four years.

The career of the Bank during the next few years was uneventful. It increased its circulation, and as these notes passed at par, the local banks were compelled, on pain of having their notes refused, to limit their issues and maintain specie payments. The Bank brought pressure upon them by steadily presenting for redemption notes which were paid into it from day to day, and it thus acted as a "regulator of the currency." But this fact made it very unpopular in the South and West, where the inflation was greatest and where public opinion did not support such action. Several of the states attempted to tax out of existence the branches which were established within their borders,³ but from this they were debarred by the adverse decisions of Chief-Justice John Marshall in *McCulloch v. Maryland* (1819) and *Osborn v. United States Bank* (1824), in which he declared such taxes unconstitutional, on the ground that no state might

² K. Coman, *Industrial History of the United States* (rev. ed., New York, 1910), 201.

³ See E. L. Bogart, "Taxation of the Second United States Bank by Ohio," in *American Historical Review*, vol. XVII (1911-12), 312-21.

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destroy any agency of the Federal government which the Constitution permitted it to establish.

From now on for some years the country had a comparative rest from currency troubles. Each state and community was solving its own difficulties as best it could, but the secrecy attending banking operations made correction of abuses difficult. In the South and West the demand for plentiful money and for capital—which was confused with money—was paramount, and precautions to prevent over-issue were unusual. In mitigation of this demand for bank money it must be remembered that the balance of trade with the East was steadily unfavorable and that the metallic money was drained off to meet the large purchases of manufactured goods which the West bought, in payment for land purchases, in speculative profits to eastern owners, and for other purposes. The situation of this section was not unlike that of the colonies in their trade relations with England. In each case the loss of specie was not understood but was attributed to the machinations of a money power which was distrusted. In the West at this period, as in the colonies a hundred years earlier, there was need for an inexpensive and convenient medium of exchange, and again as then resort was had to bank-notes.

Although the United States Bank was an object of dislike in parts of the country, there seems to be no evidence to show that it was badly managed. Opposition to the Bank was, however, brought to a head by President Jackson, who was strongly opposed to a central bank, which he regarded as a dangerous monopoly. The unseasonable political activity of the Bank but confirmed this view in the mind of one by whom political opponents were regarded as enemies of the commonwealth. There were many persons also who were opposed to all bank-note issues, as they desired to see specie in circulation. The question of rechartering the Bank was made an issue in the presidential election of 1832, and as this resulted overwhelmingly in favor of Jackson, the Bank was refused a recharter and its affairs were wound up. This brought to an end the policy of regulating the credit bank-note currency of the country by means of a great

central bank. In its place came the policy of permitting the local and state banks to furnish the necessary credit money, and of having the government keep its own funds and make use only of specie. In this way, the use of a large amount of coin in the country would be enforced, and the undue expansion of bank-note issues would be restricted. This policy, however, was not put into practice for some years.

Speculation.—With the withdrawal of the United States Bank the way was open again for an expansion of their circulation by the local banks, and these quickly availed themselves of the opportunity. The speculative enthusiasm of the times, the internal improvements by the States, and the investments in western lands created a great demand for capital and credit, and many local banks were hastily organized to secure the enormous profits that seemed promised. This expansion was in part made possible by the deposit of the government funds in selected "pet" banks, after their withdrawal from the United States Bank. The active speculation in the public lands especially led to the expansion of bank credit for the purpose of financing these investments. As the government price was fixed and the market price frequently rose far beyond this, there was active competition on the part of speculators to borrow from the banks. These granted loans readily on the security of government land, and borrowers used these loans to purchase their land from the land agents. The purchase money was often redeposited in the same bank, where it again served as the basis of another loan for the purchase of more land. From an average of less than \$2,000,000 a year before 1830 the receipts to the Federal government from the sale of public lands rose to \$25,000,000 in 1836. So unprecedented were these sales that the expression, "doing a land office business," became synonymous with great commercial activity or merchandising success.

This vast speculation in the public lands could not have been financed without a corresponding inflation of their loans and circulation on the part of the banks. How far this proceeded is clearly indicated in the following table:

EXPANSION OF BANK CREDIT, 1829-1843 (In millions of dollars)					
<i>Year</i>	<i>Number of Banks</i>	<i>Capital</i>	<i>Loans</i>	<i>Circulation</i>	<i>Specie</i>
1829	329	110.2	137.0	48.2	14.9
1834	506	200.0	324.1	94.8	
1836	718	251.9	457.5	140.3	44.0*
1837	788	290.8	525.1	149.2	38.0
1843	691	228.9	254.5	58.6	33.5

* 1835

The panic of 1837.—The banks were, however, only the agencies which facilitated the speculation of this period ; the real explanation is to be found in the unbounded optimism of the people. It was a period of international peace and expanding trade. In the United States there was territorial expansion and business development. Large investments of foreign capital were being made, and treasury surpluses were so large that in 1836 an act was passed providing for the distribution of \$37,000,000 of federal funds among the states. Prices were rising, not only of land, but also of commodities, and large crops of cotton and grain brought in great profits to the farmers.

The mad dance of speculation was brought to an abrupt close by the panic of 1837. The causes of this widespread crisis were numerous and complicated, but at bottom it was due to undue business expansion with accompanying extension of credit and speculation. Many factors contributed to this expansion, such as the prevalence of international peace, the foreign demand for our agricultural products, especially cotton, the price of which moved up from 6 to 8 cents a pound to 20 cents a pound in 1835, the reckless building of internal improvements which opened up rich prairie land to cultivation and to markets, and the widespread land speculation. It was a period when men's imaginations were stirred, and the prospects of the future were mortgaged to a reckless extent. Michael Chevalier, a noted French economist who visited the United States in 1834, was astonished by the speculations. "Everybody is speculating," he wrote, "and

* *Society, Manners, and Politics in the United States* (1834), p. 305.

everything has become an object of speculations. The most daring enterprises find encouragement ; all projects find subscribers. . . The principal objects of speculation are those subjects which chiefly occupy the calculating minds of the Americans, that is to say, cotton, land, city and town lots, banks and railroads."

The immediate occasion of the crisis was the so-called specie circular of the treasury department of July 11, 1836 ; this was an order to the government agents for the sale of public lands, that they should thereafter take in payment only specie ; the notes of specie-paying banks, if signed by the Treasurer of the United States, would be accepted. A check was thereby placed upon land speculation which cramped the operations of the western banks, whose situation was made more serious by the failure of American crops in 1835 and 1837. The failure of important business houses in England at the end of 1836 caused a lessening in the demand for cotton, while at the same time these brought pressure for the repayment of loans made in the United States. Cotton fell from 20 cents a pound to 10 ; several of the greatest cotton factors in New Orleans failed, and southern planters and banks were involved in the crash of the prevailing credit system. To these causes may possibly be added the reduction in the tariff, which had been going on since 1833, and which injuriously affected certain manufacturers of the East. In May the banks of New York City suspended specie payments, followed soon by every bank in the country. Over 600 banks failed, the discredited bank-notes depreciated in value, and prices shrank to a hard-money level. When foreign investors asked for the repayment of their loans, some of the states repudiated their bonds and others delayed their interest payments. Several of the western states declared a moratorium on private debts. A period of liquidation and readjustment ensued, which was followed by a severe depression lasting five or six years. The bank-note circulation was rapidly contracted from \$149,000,000 in 1837 to \$58,000,000 in 1843, while the sales of public land steadily fell off from the high-water mark of twenty million acres in 1836 until they reached about one million acres in 1841.

1841/1842

Local banks, 1837-1863.—After the crisis of 1837 and the resulting depression, the number of banks and their business, as indicated by their loans and circulation, remained fairly steady for a decade. By 1843, however, courage returned and business resumed its normal course. Banks responded to the demands made upon them for accommodation and gradually expanded their loans and circulation; after 1853 the expansion became extremely rapid, as is indicated in the following table :

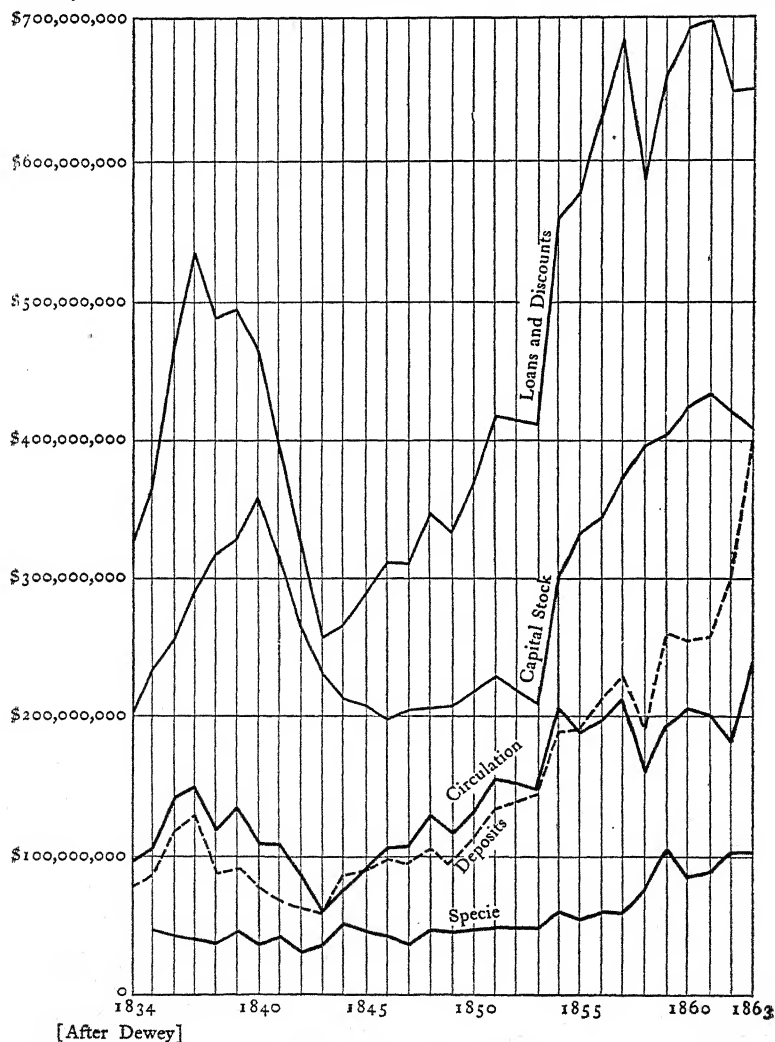
BANKING EXPANSION, 1847-1860 (In millions of dollars)					
<i>Year</i>	<i>Number of banks</i>	<i>Capital</i>	<i>Loans</i>	<i>Circulation</i>	<i>Specie</i>
1847	715	203.1	310.3	105.5	35.1
1853	750	207.9	408.9	146.1	47.1
1857	1416	370.8	684.5	214.8	58.3
1860	1562	421.9	691.9	207.1	83.6

Regulation was now left to the states, the federal government withdrawing entirely from the banking field; not until the establishment of the national banking system in 1863 was any further federal banking legislation enacted. The stability and soundness of the banks consequently differed greatly in different parts of the country. In Massachusetts and New England generally, under the Suffolk system, in New York under the safety fund and the free banking or bond deposit systems, and in Louisiana, sound banking methods were gradually developed.

Some of the difficulties of this period arose from the fact that the local banks were small single units, no one of which was large enough to provide for itself a proper diversification of risks; being unrelated to one another there was no method by which reserves could be pooled or the strong banks come to the aid of the weak. The success of the Massachusetts and of the New York systems lay in the fact that each of these provided for the association of banks for certain purposes. After the end of the Second United States Bank this association was not accomplished again on a national scale

until the establishment of the Federal Reserve System in 1913. In the western and southern states, where there was a great increase in small unit banks, the losses by bad banking were still very great and extraordinary looseness in legislation and administration prevailed.

A new type of bank had now entered the field, moreover, which was less amenable to control than the local



LOCAL BANK STATISTICS. 1834-1863

institutions had been. This was the state bank, established in the name of the state by the legislature, which chose its president and directors. It is true that the Constitution had forbidden the states to emit bills of credit, but here was a state corporation authorized to issue notes, make loans, and carry on other banking functions. Did its notes come under the constitutional prohibition? The state of Kentucky had created such a bank in 1820, and the Supreme Court at a preliminary hearing, under the leadership of Marshall, held the Kentucky act void. But when the case was finally decided in 1837 before a full court it was stated that the issuance of notes by a state bank, even though the state was the sole stockholder, was not unconstitutional. This opened the door to the southern and western states to issue what was practically fiat money, and the agrarian groups took full advantage of the opportunity. Some of the worst excesses were perpetrated by these state banks.

One serious evil was the non-enforcement of redemption of notes in specie and their consequent over-issue. Officials and the public acquiesced in these practices, for the banks furnished a medium of exchange and also loaned them credit. Some of the worst excesses were to be found in the banking annals of Michigan.⁵ Here a single box of specie was made to do service for one bank after another, being rushed ahead of the bank commissioners in their tour of inspection. In one case the box had only a thin layer of coins on top, while beneath were glass and nails. The banks were called "wild-cat" banks because they were sometimes established in places whose only inhabitants were wildcats; here notes could be safely issued without fear of being returned for redemption. One of these institutions wound up its affairs with \$580,000 notes in circulation and \$86.46 in specie on hand with which to redeem them.

Perhaps the most serious practical evil to the business community was the depreciation and lack of uniformity of note issues, which resulted in great confusion in the currency. "A country merchant," says Dewey, "might receive and pay out a thousand kind of notes, some good, some doubtful, some

⁵ See Alpheus Felch, *Early Banks and Banking in Michigan*. Reprinted in Sen. Ex. Doc. No. 38, 52d Cong. 2d sess.

presumably bad, and this condition grew worse as the circle of business activity was enlarged with the construction of railroads." At one time as many as 5400 different kinds of spurious or counterfeit notes were recorded as being in circulation, and every merchant was compelled to keep at his elbow a Bank-Note Reporter or a Counterfeit Detector. By the establishment of the national banking system in 1863, most of these early evils were brought to an end.

To pass judgment upon the defects and shortcomings of the varied systems of local banking is difficult, but any criticism must be made in the light of conditions then existing rather than according to present standards. The banks in the West were organized as commercial banks, but were trying to serve an agricultural community to which they made long-time loans. In these circumstances their assets lacked the essential quality of liquidity, and they frequently failed because of the "frozen" character of their loans. Today a sharp distinction is made between agricultural credit banks and commercial banks; the attempt at that time to combine their diverse functions led inevitably to failure. Less defensible was their abuse of the note-issuing power. This must be attributed in part to ignorance of the principles of banking, in part to a real scarcity of other media of exchange, and in part to a reckless spirit of speculative enterprise which was bred of the westward movement and underlay the expansion of internal improvements, manufactures, and other lines of industry and commerce as well as banking. Most important, however, was the fact that the debtor agricultural classes, both southern planters and western farmers in need of capital, and borrowers in the eastern financial markets, saw clearly enough that their interests were best served by easy money, and there is little doubt that they deliberately favored an inflation policy.

The independent treasury system.—After the end of the United States Bank in 1836 the government for some years deposited its funds in selected local banks; but in so doing it was exposed to all the dangers and inconveniences connected with an inadequately regulated system of banking. It therefore instituted the plan of caring for its own funds, temporarily in 1840 and permanently in 1846, by means of

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the so-called independent or sub-treasury system. According to this the government was to separate itself completely from the banks, and was neither to establish a central bank nor to make use of the local banks. It would not use them as fiscal agents nor deposit government revenues with them ; nor would it receive bank-notes in payments to itself. The government was to establish sub-treasuries, which should collect all the revenue in specie, and make all disbursements in coin through its own officials.

This plan was designed to remedy the currency evil in three ways : (1) by using specie exclusively it would insure the presence of a large amount of coin in the country and would lessen the demand for bank-notes : (2) since all taxes and payments to the government were to be made in specie, the banks would be compelled to keep large amounts on hand for the use of their customers ; (3) at the same time it was expected that the banks, since they would no longer receive government deposits, would not be able to expand their note circulation so greatly as they had done. This hard money policy of the government would thus effectively hold the banks in check and act as a regulator of the currency. An official investigation of the independent treasury system made in 1855 stated that all these results had been secured, and also that it prevented losses to the government and gave to the treasury better control of its funds than it had possessed before. Down to the period of the Civil War it proved safe, economical and effective.

Coinage reforms.—Another part of the hard money policy of the government was a revision of the coinage laws so as to make the mint function actively in supplying the people with metallic money. Little gold or silver was as yet mined in the United States, and the excessive issue of bank-notes had prevented the accumulation of any large stock of specie in the country. Coins were nevertheless always to be found in the commercial centers of the country. They consisted for the most part of a heterogeneous collection of foreign coins, often clipped and mutilated. Spanish dollars and subdivisions thereof formed the bulk of the metallic money. No American silver dollars were coined from 1806 to 1836, and gold had disappeared from circulation under the ratio

of 1792, which undervalued it. Gold had, however, recently been discovered in North Carolina and Georgia in sufficient quantities to make it appear probable that the domestic monetary needs of the people might be supplied from this source.

By the act of 1834 the ratio between gold and silver was changed from 15 to 1 to 16 to 1; that is, the weight of the gold dollar was reduced from 24.75 grains of pure gold to 23.2 grains (raised in 1837 to 23.22 grains), the weight of the silver dollar remaining the same (371.25 grains of pure silver). As this slightly overvalued gold in the form of coins, it was brought to the mint and came into circulation again, while silver coins slowly began to disappear since they were worth more in the form of bullion. The lack of subsidiary silver was a serious disadvantage in retail trade and doubtless contributed to the demand for a larger supply of bank notes of small denomination. In the circumstances some form of bank credit money would seem to have been unavoidable.

After 1840 the silver dollar was rarely seen in circulation, and after the gold discoveries of 1848 even the worn fractional coins disappeared. When the smaller coins were withdrawn the inconvenience became so great that Congress passed the law of 1853, debasing the fractional coins by decreasing the amount of pure silver in each in order to keep them in circulation. Up to this time the half dollars, quarters, and dimes had contained exact fractions of the amount of silver in a silver dollar; consequently the same causes which led to the withdrawal from circulation of silver dollars removed also the fractional silver coins. The act of 1853 sought to remedy this by reducing the amount of silver in the fractional coins and making them mere token money whose bullion value was less than their value as coins. The mint bought the necessary silver bullion and minted the debased fractional silver coins. Accordingly after this the smaller coins remained in circulation although silver dollars practically disappeared from use. Gold coins of course became general, especially after the gold discoveries in California.

In January, 1848, James Marshall, while building a mill

for John A. Sutter in Eldorado County, noticed shining particles of gold in the mill race. When this discovery was followed up, rich deposits of gold were found in the neighboring region. Immediately the news spread to the surrounding settlements, and more gradually to the East and to Europe. A great migration of gold hunters set in: around Cape Horn, across the Isthmus of Panama, and over the western plains by wagon, they thronged to the gold fields. By the end of 1849 more than 80,000 immigrants—the “forty-niners”—were settled in California, which enabled the territory to claim admission to the Union as a state. The first and most important economic result of this discovery was an enormous increase in the production of gold: in 1850 California produced \$36,000,000, which was equal to the annual average production of the whole world during the previous decade. In 1851 the production reached \$56,000,000, and in the same year gold was discovered also in Australia. As a result of these discoveries there was a large addition to the world's supply of specie, thus raising the general level of prices; immigration was greatly stimulated, the Far West was more rapidly settled, and the construction of a transcontinental railroad was hastened. The rising level of prices, due to this metallic inflation, led, as always, to commercial and industrial expansion. A period of good times, increasing profits, and finally speculation set in, which was brought to an inevitable end by the crisis of 1857.

The panic of 1857.—Our third crisis was primarily financial and affected the financial institutions and centers of the country. In August, 1857, the Ohio Life Insurance and Trust Company, which had five million dollars tied up in railroad loans, and whose New York agent had defaulted, failed with large liabilities to eastern institutions. This was sufficient to topple over the house of cards. A panic followed in New York City, and most of the banks were forced to suspend specie payments. Many of the western railroads went into bankruptcy, as did numerous other speculative enterprises. In 1857 there were almost five thousand failures. This panic was due largely to industrial causes, such as the over-investment of fixed capital in the extraordinarily

rapid construction of railroads—over \$1,250,000,000 was invested in railroads between 1850 and 1860—to the opening up of the West, and to the development of our mineral resources in Pennsylvania and elsewhere.

Some writers have claimed, with less reason, that the tariff of 1857, enacted a few months before, was partly responsible for the crisis. Much more important was the stimulus of rising prices occasioned by the enormous additions to the gold supply from California and Australia, and also by the unusual demand for our products resulting from the famines in Ireland, the Crimean wars, the Sepoy Rebellion in India, and similar events abroad. In fact, the whole period of the westward movement, from 1815 to 1860, was one of restless activity and of speculative enterprise. When not held in check it sought an outlet through the channels of credit and led to banking excesses; even disaster could restrain it for only brief periods. Now that the metallic additions to the currency of the country were so large and industrially so stimulating, it was inevitable that speculative activity should be carried to an extreme. The country quickly recovered from the effects of this panic and by the end of the decade showed no trace of its results.

Panics appeared during this period as a new phenomenon of American economic life. There had been commercial depressions during the colonial period and later, as in 1763, 1784, and 1807, but these had been caused by interruptions of trade. The crises or panics of 1819, 1837, and 1857 occurred when there was no interference with trade and in periods of profound peace. They seem to have been due to the development of credit, as extended both by banks and in other ways, by which a rhythmic or cyclical character was introduced into modern industry. The cycle generally begins with the investment of capital in enterprises that promise large returns; then follow great activity, expansion, large production, speculation, doubt, impairment of confidence, curtailment of credit, panic, stoppage of production, unemployment, liquidation, depression, recovery—and the cycle starts again on its endless round. The possibility of devising methods of regulating credit and production so as to avoid panics belongs to a later chapter.

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Summary.—The thread which runs through the financial history of this period is the continued effort of the people of the United States to provide themselves with the necessary media of exchange. In the solution of this problem the federal government lent its aid directly by establishing a mint and twice by chartering a bank, and indirectly by instituting the independent treasury system. It endeavored in these various ways to regulate the issues and to furnish the people with a uniform national metallic currency and with a safe credit money. The people, especially in the less developed sections, were frequently impatient with these restraints and sought to organize banking institutions which would provide them with cheaper and more plentiful money. These experiments were attended with mistakes and sometimes led directly to serious panics, but they were the mistakes of an impulsive and untutored child rather than the results of wilful misbehavior. By the end of the period, the principles of sound currency and good banking were understood, and in the older sections of the country were embodied in practice.

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CHAPTER XVI

MANUFACTURES

Manufactures to 1808.—The course of industrial development was but little affected by the events which immediately preceded and led up to the Revolution. During its progress the production of various articles was greatly stimulated by the urgent demand for war supplies, by the interruption of foreign commerce, and by the high prices of a paper money régime. Especially was this true of the iron and steel industry, of textiles, and of other articles of necessity, such as paper, powder, glass, and pottery. The cutting off of foreign supplies stimulated household industries primarily, for the factory had not yet developed. These household industries expanded and contracted quickly and silently in response to changes in demand, but their growth at this time indicates no significant trend to manufactures nor movement away from other occupations. This is shown by the prompt disappearance of many of these infant industries when peace was declared, since they could not compete with the flood of cheap manufactured goods which poured into the country from Great Britain. Political independence had been achieved, but industrially the people of the United States were almost as dependent upon Great Britain as they had been during the colonial period. After the Revolution, as before, they continued to devote themselves to agriculture and commerce; this event, important as it is in political history, marks no such definite turning point in our industrial development.

Manufacturing was confined for the most part to village crafts and household industries, which were to be found widely diffused, and does not indicate the development of the factory system with power-driven machinery. At this time the most important household manufactures were of flax, and quantities of linen were made in New England

homes and trafficked throughout the then western country. Hosiery, lace, edging, and other knit goods were made in families and sold to merchants or bartered with peddlers for other manufactures. Nailmaking was still partly a fireside industry.

During the colonial period these household industries were usually undertaken on the initiative and with the capital of the workers, who worked up their own materials to make goods for general sale ; but gradually they tended to merge into a second type in which the home-workers received materials to work up for employers. Merchant capitalists gave out work to farmers' wives, thus affording employment to hundreds of families in a neighborhood. Even the early factories used family labor for some of the operations which were not yet taken over by power machinery. After boot- and shoe-making had become primarily a factory industry, great vans circulated through the New England and middle states, leaving at farm houses along the way bundles of boot or shoe uppers to be closed and bound, cloth goods to be finished and trimmed, buttons to be covered, and similar work. There was thus a gradual transition from household industry to workshop, and from that to factory, which was not completed in some lines until the Civil War. All three stages of industrial evolution existed side by side, for the progress in some industries was much more rapid than in others.

Foreign influences continued to determine the course of these household manufactures down to about 1816. Though the Revolution stimulated them, the renewal of commercial intercourse, practically on a free trade basis, brought most of these nascent industries to an untimely end. The events of the next two decades threatened not merely the developing factories, but also the household industries. Beginning in 1793 war broke out between France and England, and extended until it involved practically all the nations of western Europe. Between 1793 and 1807 we were the leading neutral nation, and gained greatly by our position. Enormous profits were to be made from the sale of our agricultural produce to the belligerents and from the carriage of our commodities and of the colonial products of those nations

whose ships England had driven from the seas. Capital and labor were diverted from manufacturing and applied to the more profitable lines of farming and shipping; this is illustrated by the growth of American merchant shipping between 1789 and 1810 from 202,000 to 1,425,000 tons, all built in the United States. For our exports we received in exchange not merely the factory-made goods of England, but also low-grade hand-made cotton fabrics from India and China and Russia and Holland. It was cheaper to buy imported goods than to manufacture them at home.

Looking back over this period twenty years later Albert Gallatin, the Secretary of the Treasury, explained the slow growth of domestic manufactures in the United States by the following reasons: the abundance of land, the high price of labor, the scarcity of capital, the greater profitableness of agriculture and commerce during the continental wars, and the continuance of old habits.

So slow was the growth of manufactures that in 1800, eleven years after the establishment of the first cotton-mill by Samuel Slater, there were only eight cotton factories in the country. Indeed, Great Britain supplied us with such a large proportion of our manufactured goods that when in 1806 it was proposed to cease intercourse with her, such a plan was pronounced impossible, and we read of the Secretary of War Dearborn, after the embargo, asking that it be suspended in order that woolen blankets might be imported for the Indians, since these could not be produced in the United States. "China, glass, pottery, hardware, cutlery, edged tools, blankets, woolen cloths, linen, cotton prints," says McMaster, "and a hundred other articles of daily use came from Great Britain in such quantity that the value of each year's imports amounted to \$35,000,000." English and French outrages against our neutral shipping, however, required retaliation; the English Orders in Council and the Berlin and Milan decrees were soon followed by the Embargo Act, which prohibited American vessels from leaving the ports of the United States. This act may be regarded as closing the period of our colonial or formative life and ushering in the beginning of a national, organic, industrial development.

The United States as an industrial nation.—The year 1808 may be taken as a convenient line of demarcation to distinguish the period of industrial dependence of the United States upon European countries from that of industrial self-sufficiency and diversified internal development. Colonial habits and occupations had predominated after the Revolution much as they did before it. In spite of various efforts at manufacturing the country had remained largely agricultural and commercial. But with the passage of the Embargo Act, the Non-Intercourse Act, and finally the outbreak of the War of 1812, foreign trade was greatly hindered if not destroyed and the country thrown back upon its own resources. From 1807 until the end of 1814 the United States was largely cut off from foreign competition, either by its own legislation or by the war with England. The domestic production of various commodities, which had previously been imported from England, was greatly stimulated by this period of restriction, and establishments for the manufacture of cotton and woollen goods, iron, glass, hardware, and other articles sprang up with mushroom rapidity all over the country.

The conduct of the War of 1812, moreover, tended to stimulate manufactures. The purchase by the government of large quantities of uniform articles¹ favored the factory rather than the scattered household industries. Writing of this period, Warden reported :² "The immense capital which had been employed in commerce, previously to the restrictions, was transferred to manufactures, and workshops, mills and machinery for the fabrication of commodities, were erected, as if by enchantment." Those industries which

¹ The manufacture of firearms is a good illustration of this. In 1798 Eli Whitney applied the principle of interchangeable parts, which had already been used in France, to the manufacture of guns. He obtained a contract with the federal government to manufacture some 10,000 muskets by a plan which he said would "make the same parts of different guns, as the locks for example, as much like each other, as the successive impressions of a copper plate engraving." For each part he made a mold, so that the castings of any gun were interchangeable with the same parts of any other gun. Whitney was very successful, recouping the fortune he had lost in the cotton gin, and the interchangeable system was introduced generally into government armories and private establishments for the manufacture of firearms. So identified did this method become with our best practice that the system of interchangeable parts was known in Europe as "the American method."

² D. B. Warden, *Statistical, Political, and Historical Account of the United States* (Edinburgh, 1819), 111, 263.

depended for their market upon commerce, as shipbuilding, rope walks, and the making of sailcloth, suffered, but on the whole manufactures prospered, and the profits from this source offset in part the losses from the cessation of commerce.

The factory system.—The factory system of manufacture may be said to have obtained its first real foothold in the United States during the restrictive period following the embargo. By the factory system is meant the concentration of all the processes of manufacture in a factory, involving their withdrawal from the household and shop where they had previously been carried on; it involves also the use of specialized machines, driven by non-human power, and the organization of the workers under skilled management, for stipulated wages and fixed hours, with production for the general market and not upon order. Such an organization of industry in the United States, writes Clark,³ “was in a sense a Yankee invention, the thought-out creation of minds that consciously adapted foreign suggestions to home conditions.”

The factory first appeared in the textile industries, for here machines first displaced hand processes, but until 1814 it affected only the work of spinning, the yarn still being given out to household weavers to be made into cloth. In that year, however, the power loom, also an independent American invention according to Clark,⁴ though probably suggested by English prototypes, was introduced by Francis C. Lowell. He for the first time in 1814 brought the various processes of spinning and weaving under one roof in his factory at Waltham, Massachusetts, which has therefore been called “the first complete factory in the world.” Other textile factories were built in New England by enterprising merchants like Lowell, and in Philadelphia and other cities where skilled artisans were to be found.

Our factories differed from those abroad in combining spinning and weaving, and even dyeing and printing, in one establishment. This practice of centralizing production was

³ V. S. Clark, *History of Manufacturing in the United States, 1607-1860* (Washington, 1916), 448.

⁴ *Op. cit.*, 262.

due in part to the fact that American manufacturers, making uniform coarse fabrics for which there was a large demand, depended more on machinery and less on operative skill than foreign makers of fine goods, and in part to the long distances between dispersed processes and the consequent high costs of transportation. Consequently, the economy of conducting all processes under one roof was relatively greater in the United States than abroad, and factory organization proceeded faster here.

The period was distinctly one of industrial transition, but the use of machinery and of factory organization spread gradually into other fields of industry. Shortly before the Civil War the factory system was characteristic not only of the textile industries, but also of those branches of wood and metal manufactures which required the mechanical production of uniform and interchangeable parts. Textile factories and establishments for making firearms, agricultural implements, sewing-machines, clocks, and watches were alike in their wide use of power-driven machinery, their systematization of processes, and their administration of labor. As the factory system spread, factory towns sprang up on the streams of New England and the middle states. Lowell, Lawrence, Holyoke, Fall River, Cohoes, and Paterson are examples.

It must not be thought, however, that the concentrated factory system dominated at once the industries of the country. There was a wide diffusion of petty manufacturing and mechanical establishments in every settled part of the country and a rapid increase in the number of such enterprises. The census of 1840 showed probably the greatest development of small manufacturing industries which had thus far existed. The tendency to diffusion of manufacturing establishments as the population spread out over a wider territory was not yet counteracted by the movement towards concentration which followed the improvement of transportation facilities and of industrial technique. But by 1850 concentration and combination were reducing the number of establishments, not only relatively to the population but in some industries, as cotton and steel, even absolutely.

Factors in the development of manufactures.—"The objections to the pursuit of manufactures in the United States,"

wrote Hamilton in his Report, "represent an impracticability of success arising from three causes ; scarcity of hands, dear-ness of labor, want of capital." The development of manufactures in the next seventy years depended in fact upon the extent to which these disadvantages were overcome, as well as others not mentioned by Hamilton, such as improvements in transportation and the extension of the market.

The scarcity of hands was overcome in part by drafting into service the unused labor of women and children, and in part by immigration. As the latter group tended to concentrate in the seaboard cities there was available a larger supply of labor for the new factories. The dear-ness of labor, Hamilton thought, would be overcome by the introduction of "mechanic power," which would economize labor and reduce costs of production. Water, however, had been used in colonial times for saw and grist mills, and the first factories using power-driven machinery followed the same technique. Until about 1840 wooden pitchback wheels, which turned inward toward the fall and were propelled by the weight of water in the buckets, were the usual method of which water power was utilized.⁵ Shortly after this date turbines were introduced. These were cheaper to install and were more efficient, so that they rapidly displaced the older type. Water power was used chiefly in New England, whose hills produced rapid rivers but no coal. In Pennsylvania and throughout the Middle West, where coal was cheap but water power was lacking, the steam engine was the common agent for furnishing power. The first steam engine to drive mill machinery seems to have been introduced about 1803 ; their spread was slow, but by 1860 they were in general use, having invaded even New England as improved transportation cheapened fuel costs there.

Capital for manufacture was a matter of slow accumulation. Foreign capital was not attracted to investment in competing enterprises in America, and dependence had therefore to be placed upon domestic sources. Successful operators of small shops and mills reinvested their profits and thus became founders of larger establishments. Much capital was diverted from commerce into manufactures dur-

⁵ V. S. Clark, *History of Manufactures in the United States*, I, 406.

ing the embargo and the War of 1812, and later from the whaling industry as this declined in importance. Industrial capital, however, was for the most part built up out of its own earnings, a process which was aided by the development of savings-banks and insurance companies, which accumulated petty savings and turned them back into industry. According to the not very reliable census returns the amount of capital invested in manufactures was \$50,000,000 in 1820, \$250,000,000 in 1840, and \$1,000,000,000 in 1860.

The development of manufactures was at all times limited by the state of transportation and the size of the market. The turnpike, canal, and railway in turn reduced the time and the cost involved in assembling materials, fuel, and laborers at some convenient point and in distributing the finished products. As transportation improved there was a tendency toward the concentration of manufactures at the most favorable locations, and industrial cities grew up like Fall River, Paterson, Rochester, Cincinnati, and Pittsburg. Even more important was the effect of transportation in widening the market. At the end of the Revolution this was limited in volume and variety by the small population and primitive wants of a frontier people. During the next seventy-five years the market was steadily expanded as better transportation facilities widened the area accessible to a producer. At the same time the growth of population multiplied many times the consuming power of the larger territory. Selling "at a low price to all" rather than at a high price to a few was described as the characteristic feature of democratic American business. With the growth in wealth and culture the wants of the people were increased and refined. For the satisfaction of these wants the factory system of production, which turned out large quantities of standardized goods at low prices, was well adapted.

The patent system.—Another factor in promoting the industrial development of this period was the inventive genius of the people, which in turn was stimulated by the American patent system. Provision was first made by Congress in 1790 for giving to inventors the exclusive right to their discoveries by the passage of a law said to have been inspired by Jefferson. The number of inventions grew

steadily, from an average of 31 per annum in the decade ending in 1800 to 2500 in the decade ending in 1860. The revolutionary improvements in farm implements have already been described; even more spectacular were the new inventions of this period in the manufacturing industries. The magnetic telegraph, invented in 1835, was first practically applied by S. F. B. Morse in 1844, and in 1846 Elias Howe patented the sewing machine—two of the most important inventions of the half century. The sewing machine revolutionized the craft of the housewife, transferred the clothing industry to the factory, and was soon applied to the making of shoes, hats, harness, and similar articles. The period 1840-60 was one of great technological advance, the like of which did not occur again until the electrical inventions in the 1880's.

Most of the inventions for which patents were issued during this period consisted of labor-saving devices, the application of machinery to industrial processes, and new processes which simplified methods and reduced cost. But the inventions of this period were not merely of new machinery; they were largely of a utilitarian character and included many of the improvements which have raised the general standard of comfort in this country. "They related to improvements in looms for producing figured fabrics; to airheating stoves, cooking stoves, musical instruments, firearms, sewing machines, printing presses, boot and shoe machinery, rubber goods, floor cloths, and thousands of other inventions tending to raise and improve the standard of living of the people."

The manufacture of American edge tools began; the invention of planing machines revolutionized woodworking; in 1842 the Nasmyth steam hammer was invented, and in 1847 the cylinder printing press. Piece by piece, in response to industrial needs, the mechanical appliances were being perfected which made possible the enormous production of the completed factory system and its operation under skilled and centralized direction.

The development of the protective system.—The adoption of the Constitution gave to the federal government the power to encourage manufactures by a protective tariff, but

the first tariff act of July 4, 1789, levied only low duties, mainly for revenue purposes. The preamble stated the three objects sought to be the support of the government, the discharge of the public debt, and "the encouragement and protection of manufactures." The efforts made immediately after the Revolution to obtain freedom of trade from other nations by throwing our own commerce open without restriction had been given up, and the eighteenth century policy of protection was accepted, but no vigorous effort was made to apply it. Specific duties were laid upon a small list of articles already extensively produced and which it was thought could be made to supply the home market, which included boots and shoes, soap and candles, rope and cordage, nails, and wool cards; and moderate ad valorem duties were imposed on gunpowder, earthenware, and glass. Since most of the duties were only five per cent and the highest fifteen per cent, it is evident that the protective principle was not vigorously applied.

Two years later Hamilton made his Report on Manufactures, perhaps the most able presentation of the case for protection ever written, but this evoked no sympathetic response from Congress. The truth was that greater profits were to be obtained from agriculture and commerce, and that most manufactured goods, produced better and more cheaply abroad, could be had at lower costs by exchange for our agricultural exports than by manufacture at home.

Upon the conclusion of peace in 1814 our ports were thrown open again and importations of foreign commodities grew greatly; this is shown by their jump from \$13,000,000 in 1814 to \$147,000,000 in 1816. The pent-up goods of English manufacturers were fairly poured into this country, where they were sold at low prices and upon long credit. The prevailing system of consignment on commission to agents, by whom goods were sold at auction, had a further depressing effect on prices. It has been asserted by some writers that these forced sales were the result of conspiracy on the part of English manufacturers to crush the budding American industries, and this charge was given color by loose statements on the British side. Henry Brougham informed the House of Commons that "it was well worth while to

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incur a loss upon the first exportation, in order, by the glut, to stifle in the cradle these rising manufactures in the United States, which the war had forced into existence, contrary to the natural order of things." There is no evidence to show, however, that individual English producers sold at a loss abroad for this reason rather than from a desire to protect domestic prices by relieving the congestion of the home market, in other words, what was later called "dumping."

But whatever the motives, the effects upon American manufacturers were sudden and disastrous, especially for the new textile and iron industries. Merchants, shippers, and consumers welcomed this stream of European luxuries and foreign wares, but to the manufacturers they spelled disaster if not ruin. At first, however, it was expected that economic conditions would return to much the same status as had existed before the embargo, and events seemed to justify this supposition. The demand for American cotton by English cotton mills was insatiable and drove the price of that commodity to new heights. Short crops in Europe created a demand for our agricultural foodstuffs, while the increased imports and exports furnished remunerative business for American shipping. Amid the prosperity of these interests the complaints of the manufacturer were unheard. The true state of affairs was revealed when good crops returned in Europe and the European market for our agricultural products fell off; that in England was practically closed by the corn law of 1815. Commercial restrictions were also imposed upon our carrying trade by England, France, Holland, and other European countries after the end of the continental wars, and the profits of our farmers, shipowners, and merchants declined.

As the foreign markets were closed to our agricultural products, there grew up a demand for the development of a home market; Gallatin had estimated that home consumption in 1809 was "not very inferior to that which arises from foreign demand." President Madison, in submitting the treaty of peace, bespoke for the manufactures which had sprung up during the war, "the prompt and constant guardianship of Congress"; he also urged, in his message of 1815, the duty of extending protection to "the enterprising

citizens whose interests are now at stake.”⁶ At the same time the struggling manufacturers were asking protection for themselves against foreign importations. “Forty memorials from as many infant industries and manufacturing centers were sent up to Congress in the session of 1816-17. The cotton manufacturers of Massachusetts, Connecticut, and Pennsylvania petitioned for protection against the low-priced goods from England and India ; the paper manufacturers and printers protested against the competition of Holland and France ; the sugar planters of Louisiana, the cordage manufacturers of Massachusetts, the hatmakers of New York, the gunsmiths of Lancaster, Pennsylvania, and the proprietors of the hemp factories of Lexington, Kentucky, were no less insistent on protection.”⁷

Early in 1816 Alexander Dallas, the Secretary of the Treasury, in response to a request by the House, prepared a tariff bill which he accompanied with an elaborate report. Dallas classified American manufactures in three groups.

In group one he placed those which were firmly and permanently established, and which wholly or almost wholly supplied the demand for domestic use and consumption ; this embraced cabinetware and all manufactures of wood ; carriages of all descriptions ; cables and cordage ; hats of wool, fur, leather, chip, or straw, and straw bonnets ; iron casting, fire- and side-arms, cannon, muskets, pistols ; window glass ; paper of every description, blankbooks ; printing types.

In the second group he included manufactures, which, being recently or partially established, did not yet supply the domestic demand, but which were capable of doing so if properly developed ; these comprised cotton and woolen goods of the coarser kinds ; metal buttons, plated wares, iron manufactures of the larger kinds, shovels, spades, axes, hoes, scythes, etc., nails large and small, pewter, tin, copper, and brass manufactures ; alum, copperas ; spirits, beer, ale, and porter.

The third group included manufactures which were so

⁶ Bogart and Thompson, *Readings*, 311.

⁷ K. Coman, *Industrial History of the United States* (New York, rev. ed., 1910), 190.

little cultivated as to leave the country almost wholly dependent upon foreign sources for a supply ; among these were the finer textiles ; hosiery of all descriptions ; the smaller articles of hardware ; chinaware, earthenware, and porcelain ; glass of all kinds except window glass and phials.

On the first group Dallas proposed to place import duties high enough to shut out foreign competition ; the second group was to receive less protection ; and duties on the third group were to be determined solely by revenue considerations.

In accordance with these suggestions a general tariff act was passed on April 27, 1816. Practically all the articles in Dallas' first group were given a considerable measure of protection, which was also extended to the textile industries, as these were especially threatened by English competition. Cotton and woolen fabrics were granted a duty of 25 per cent until 1819, and after that 20 per cent, while heavier duties were imposed on cheap cottons in order to exclude East India goods ; on linens the rates were raised to 35 per cent, which were higher than those prevailing during the war. The duties on rolled or hammered iron were slightly less than those which prevailed during the war, but were four times as high as those of 1789. Adequate protection was given to minor manufactures which had gained a foothold during the war, such as hats, leather, boots and shoes, cabinetwares, manufactures of wood, writing paper, salt, and sugar, and somewhat less to glass and earthenware.

While the rates imposed by the new act were not high, the general increase being about 20 per cent over the level of 1789, the purpose which dictated them was so different from that of earlier acts, that the tariff of 1816 is often said to mark the establishment of the protective principle in the United States. Heretofore customs duties had been imposed chiefly for revenue purposes, the choice of objects and the rates being determined by fiscal considerations, but now the development of domestic industry by means of protective duties was sought. There was, however, still the question of revenue to be considered, since larger sums were needed to pay the debts contracted during the war. The debate over

the tariff of 1816 was based on the broad question of the relative merits of free trade and protection; the bill was introduced in the House by William Lowndes of South Carolina, and was supported in the Senate by John C. Calhoun of the same state. Later both these men were uncompromising opponents of protection, while South Carolina led the movement for nullification. The vote for the bill, moreover, came from all parts of the country. After this measure successive acts continued the protective policy; the act of 1818 granted additional protection to the iron industry against Swedish and English imports, and extended the 25 per cent duty on cottons and woollens until 1826.

The financial crisis of 1819 was followed by a depression which affected agriculture and commerce even more than manufactures. Among western farmers sentiment began to grow in favor of protection to domestic manufacturers in order to develop home markets for their foodstuffs and for their raw materials such as wool, hemp, and flax. The South, whose chief staple, cotton, found its best market in England, was beginning to manifest sectional opposition to a protective policy, while New England continued to be more interested in commerce than in manufactures and opposed tariff burdens which would hamper navigation. The textile interests, however, favored high duties, and by 1820 the multiplication of small mills and factories in Rhode Island and Connecticut had brought these states into the protectionist camp. The stronghold of the protective movement was in the western and middle states, though the country as a whole favored higher duties.

In 1824 the industrial interests, by now more numerous and better informed, were able to obtain the passage of a tariff act which made a general revision, in the main upward. The list of protected goods was greatly expanded and made to include wool, iron, hemp, lead, and glass; duties were also raised on silk, linen, cutlery, spices, and other articles. "In its protective zeal," wrote Rabbeno,⁸ "the tariff increased the duties on several merchandises . . . for the production of which the country was not in the slightest degree pre-

⁸ U. Rabbeno, *American Commercial Policy* (New York, 1895), 138.

pared." The general average of duties was raised by this act from about 25 per cent to nearly 40 per cent.

In the debate on this act the clash of conflicting sectional interests, which could not all be served at the same time and which could not be harmonized, first clearly showed itself. The middle and western states, including Kentucky, voted 86 to 9 in favor of the bill, while the South and Southwest voted 70 to 6 against it; New England was fairly evenly divided. The middle states and Ohio wished higher duties on wool, which were opposed by the South since cheap woollens were largely used for the clothing of the slaves. Protection to wool was also opposed by the manufacturers of woolen goods, of which wool was the principal raw material. The South wished cheap cotton clothing for the slaves and bagging for baling the raw cotton, and was therefore opposed to the high duties on cotton manufactures demanded by Connecticut and Rhode Island and on hemp by Kentucky. Pennsylvania and New Jersey wished higher protection for their iron, Illinois and Missouri for lead, and Kentucky for its dew-retted hemp, which suffered from the competition of the water-retted hemp of Russia; but all of these were used in the building and equipment of ships and high duties were opposed by the shipping interests of New England. The agricultural states, moreover, in order to create a market for whisky made from corn wished to exclude by high duties brandy, rum, and its raw material, molasses, but these two last were the basis of important New England industries.

The great purpose of the tariff act of 1824, to give American manufacturers of coarse woollens a substantial control of the home market, was not realized, and the woolen manufacturers kept up an unceasing agitation for higher duties. Many new mills had been built and their capacity was so great that it was necessary virtually to exclude foreign goods in order to ensure them a market. In no state was the development greater than in Massachusetts, and Webster, as Representative from that state, was compelled in 1828 to present to the House the resolution of his constituents asking for higher protection. In 1824, as spokesman for the navigation interests, he had given an exhaustive argument for free trade, but now was compelled to make an

embarrassing change of front. The ruinous drain of population to the West also served to convince New England of the desirability of building up local manufacturing industries to furnish employment no longer afforded by agriculture.

The act of 1828 was drawn up and passed in an atmosphere of political intrigue, which was ready to sacrifice principle to political expediency. Adams, Clay, and Jackson were candidates for the presidency, and the Jackson men planned to load the tariff bill with such unpalatable provisions that the New England Adams men could not swallow it; the odium of defeating it would thus be thrown upon Adams and he would be eliminated. The "tariff of abominations" was however accepted and passed, although it was satisfactory to almost no one. John Randolph sarcastically declared that "the bill referred to manufactures of no sort or kind, but the manufacture of a president of the United States." The tariff of 1828 represented the high-water mark of protective legislation before the Civil War, bringing the average rate of duty up to 44 per cent.

The abominations of the act of 1828 led to a reaction which found expression in the moderate duties of the tariff of 1832, practically restoring rates to the point at which they had been fixed in 1824. This concession was insufficient to satisfy the South, however, which had now ranged itself in bitter opposition to the protective tariff and the other feature of Clay's "American System," namely internal improvements. The opposition was led by South Carolina, which was suffering under a severe depression. This state had concentrated on cotton-growing, with the proceeds from which her planters purchased foodstuffs and manufactures. With the opening up of new cotton areas in the rich Gulf plains production increased rapidly and prices fell. The competition of these new areas forced up the price of slaves and forced down the price of cotton, at the same time that the fertility of the older soils was becoming exhausted. These facts the average planter did not take into account; he saw only that the price of cotton was declining, and by an ingenious twist of reasoning claimed that the duties on imports were borne by the exports of which the South contributed about three-fifths.

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The tariff was therefore held responsible for all the ills from which the southern planters were suffering. "In 1816 the average price of middling uplands in New York was nearly thirty cents, and South Carolina's leaders favored the tariff; in 1820 it was seventeen cents, and the South saw in the protective system a grievance; in 1824 it was fourteen and three-quarters cents, and the South Carolinians denounced the tariff as unconstitutional. When the woollens bill was agitated in 1827, cotton had fallen to but little more than nine cents, and the radicals of the section threatened civil war."⁹

Then, too, the commercial and ship-owning interests of Charleston were injured by the tariff, just as were those of New England. The economic interests of the South were obviously best served by free trade with England, and this section viewed with impatience if not hostility the building up of diversified industries in the North, at their expense as they reasoned. In November, 1832, South Carolina passed her famous nullification ordinance asserting that the tariff law was "null and void and no law, nor binding upon this state, its officers and citizens." President Jackson met the challenge with a ringing proclamation, but conciliation was in order and this was finally obtained in Clay's so-called compromise tariff of 1833. As finally passed, this act provided for a gradual reduction of all duties exceeding 20 per cent in the tariff of 1832 to a general level of 20 per cent; by 1842 the reduction had actually been achieved.

With the passage of the act of 1833 attention was diverted from the tariff to other features of our economic development, especially internal improvements. The next few years were unusually prosperous but in 1837 a severe panic occurred, from which recovery was very slow, and which greatly reduced the federal revenues from customs duties. Consequently in 1842, when the period of reductions provided for in the act of 1833 terminated, a new tariff act was passed restoring duties to about the level of 1832. It was thus decidedly protective in character. Very high rates were placed upon those articles which it was desired particularly to protect, as cotton bagging, window glass,

⁹ F. J. Turner, *Rise of the New West* (New York, 1906), 325.

cut nails, and especially railroad iron and refined sugar upon which the duties were as high as 77 and 100 per cent respectively. The average on dutiable articles was about 35 per cent.

When the Democrats came into power in 1845, they proceeded in turn to reform the tariff along revenue lines. Robert J. Walker was appointed Secretary of the Treasury and drew up a tariff based upon revenue rather than protective principles, which was passed in 1846. Imports were classified into eight schedules, designated by letters of the alphabet, and subjected to ad valorem duties ranging from 100 to 5 per cent. Luxuries and spirituous liquors were placed in the highest group, and controverted articles for which the manufacturers demanded protection, like iron, manufactures of metals, wool and woolens, leather, glass, paper, and wood, were placed in class C and taxed 30 per cent. While this has often been called a free-trade measure it was really only modified protection. The principles of a revenue tariff were not fully applied, for tea, coffee, and similar items not produced in the United States were left on the free list.

In the vote on this act the West ranged itself with the South in favor, while New England and the middle states were opposed to it. This change of attitude on the part of the West was caused partly by the granting in this act of relatively greater favors to agriculture than to manufactures; a distinct effort was made to avoid discrimination between raw materials and manufactured products. Thus comparatively heavy duties were imposed on raw wool and pig iron. The enthusiasm of this section for a home market to be created by building up eastern manufactures had, moreover, begun to cool; a nearer and better market had been found in the South, which was now concentrating largely on cotton-growing. This is evidenced by the expanding receipts of western produce at New Orleans, which has already been described.

The period from 1846 to 1861 was one of great industrial prosperity in the United States. As has been pointed out, the repeal of the British corn-laws in 1846, the gold discoveries in California, the rapid building of railroads and

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opening up of the West, the increase in immigration, the acquisition of territory from Mexico, and other factors brought about a rise in prices and a great revival in business. With this expansion of activity importations increased, and with them the government revenues, until it became necessary to lower the duties in order to reduce the redundant income. The average annual yield of the tariff of 1846 was \$46,000,000, while that of 1842 had been \$26,000,000. In 1857 it consequently became desirable to lessen the federal revenues, which were piling up in the treasury as a result of the independent treasury system, which prevented their deposit in the banks. The act of 1857 was passed with little party opposition, reducing the average level of duties about 5 per cent below that of 1846, and at the same time enlarging the free list.

This time New England joined with the South in voting for lower duties, while the middle states were about evenly divided. An explanation of this change of attitude reveals some interesting economic changes which were taking place in the United States. In the first place, the rise of the internal trade between New England and the West and South as a result of improved transportation facilities had built up a wide market for eastern manufactures, which had been increasing even under the low duties of the tariff of 1846. In the second place, an immense growth was taking place in shipping and foreign commerce, from both of which New England was profiting. The low duties stimulated a great import trade, which was matched by the export of large quantities of cotton and foodstuffs. The exports from the United States were about 150 million dollars in 1847 and over 400 million in 1860. At the same time a considerable coasting trade grew up. For these activities more ships were needed, which New England both built and operated. Capital was being absorbed by these enterprises and also by railroad-building, and the energies of New England were temporarily diverted from seeking high protection for manufactures.

Within a few months after the passage of the act of 1857 a severe commercial and financial panic broke out, occasioned by inflation and speculative railroad-building. As a result

imports fell off, government revenues were reduced, and a series of treasury deficits ensued. Accordingly the Morrill tariff of 1861 restored duties to about the level of the act of 1846.

The influence of the tariff on the development of manufactures in the United States is complicated by so many other factors that it is difficult to establish causal relationships. Manufactures were prostrated so completely by the excessive importations of 1815 and 1816, that the tariff act of the latter year was a minor factor in the general situation. The recovery which followed after the crisis of 1819 was due less to the tariff acts of 1818, 1824, 1828, and 1832 than to the normal revival of industrial activity; indeed, the political agitation of this period was a retarding influence by creating business uncertainty. The tariff act of 1833, though it provided for lower duties, introduced a settled tariff policy and permitted a steady development. The prosperity which followed the protective tariff of 1842 was due in any event after the long depression resulting from the panic of 1837, and was even greater under the revenue tariff of 1846.

The other factors enumerated in the preceding paragraphs were more influential in promoting industrial activity than were customs duties. And finally the panic of 1857, which some writers have ascribed to the tariff act of that year, was really brought about by the undue credit expansion, too rapid railroad building, speculation in western lands, and doubtful industrial enterprises. The whole period was one of restless activity in which it is impossible to isolate the influence of any single factor. The negative conclusion seems justified, however, that the protective tariff was not the most important cause in the growth of manufactures, as a whole, though some of them profited greatly by the protection granted them during the difficult years of infancy. It should not be overlooked, however, that the consumers paid a price, and in some cases a high one, for the benefits conferred upon the protected industries.

To appreciate and understand thoroughly the factors which were bringing about the growth of industry in the United States during this period it will be necessary to trace

the development of some of the individual industries, and for this purpose the cotton and iron industries may be selected as most important.

Cotton manufactures.—Textile fabrics can be made out of almost any fibers, but only five have had any significance in the United States; these are cotton, wool, flax, hemp, and silk, and of these only cotton will be described here. Fibers are transformed into fabrics by four processes: (1) Preparation, which consists of cleaning and straightening the fibers and forming them into a ribbon or roll of loose parallel fibers for spinning. This operation was usually performed by passing two parallel cards over one another by hand; the cards were furnished with metal teeth which combed out the fibers. (2) Spinning draws out and twists the loose roll into a firm thread or yarn. (3) Weaving interlaces the threads into a fabric. (4) Finishing embraces such processes as bleaching, dyeing, fulling, pressing, and otherwise preparing the crude fabric for final use.

Until the time of the Revolution all of these processes were performed by hand. The invention of the cotton gin by Eli Whitney in 1793 was most important in the cleaning of cotton, and shortly before 1790 cylinders revolving against rollers were substituted for hand cards. Mention has already been made of the introduction of spinning machinery based upon both the Hargreaves and Arkwright models about the same date, and of the power loom for weaving in 1814. All these inventions, except the cotton gin, were of foreign origin, but were improved upon by American inventors. As they were introduced, hand methods gave way to machines, and the industry began to move from the home to the factory. Perhaps a score of small cotton manufactories were started before 1800, but in that year only eight were in existence, all in New England; they probably operated less than 20,000 spindles. Between 1800 and 1804 the number of mills doubled. The effect of the embargo is seen in the great increase reported by the census of 1810, which recorded 269 cotton mills, running 87,000 spindles; by 1815 the number of spindles was 130,000. The consumption of raw cotton by domestic manufacturers shows the same expansion. The figures were

as follows : in 1800, 500 bales ;¹⁰ 1805, 1000 bales ; 1810, 10,000 bales ; 1815, 90,000 bales.

The cotton industry, and particularly the factory method of production, received a great impetus from the introduction of the power loom in 1814 ; before this only the spinning had been done by machinery, while the weaving was done at home on the hand loom. Immediately after the War of 1812 the immense importations of foreign goods seriously embarrassed the cotton manufacturers, but, partly as a result of protection granted by the acts of 1816 and 1818, and partly from other causes, the industry slowly recovered and by 1820 had probably regained the position occupied in 1815. By 1824 cotton-manufacturing was firmly established ; its further development was one of steady growth and improvement. In that year Webster stated, "In some sort of fabrics we are already exporting, and the products of our factories are at this moment in the South American markets." The fall in the price of cotton cloth after factory weaving began was remarkable. "In 1815, when cotton cloth was still woven chiefly by hand—the family weaver finishing only four yards of cloth a day—the price of ordinary cloths for sheeting was forty cents a yard. In 1822 it had fallen to twenty-two cents, and in 1829 to four and one-half cents." In 1860, by which time the factory system had completely abolished the household manufacture, and when the power loom was in full operation, the price was reduced to two cents a yard as a result of machine methods. The increased productiveness of labor through machinery was the cause of this great reduction in cost. "A hand-wheel spinner spun about 4 skeins of yarn a day. In 1815 a mill spinner could attend 90 spindles, producing daily 180 skeins. Ten years later each operative served more spindles and each spindle produced 5 skeins of yarn. Within another decade a single spinner operated nearly 200 spindles, and each of these produced a still larger product."¹¹

The technical progress of the industry during this period

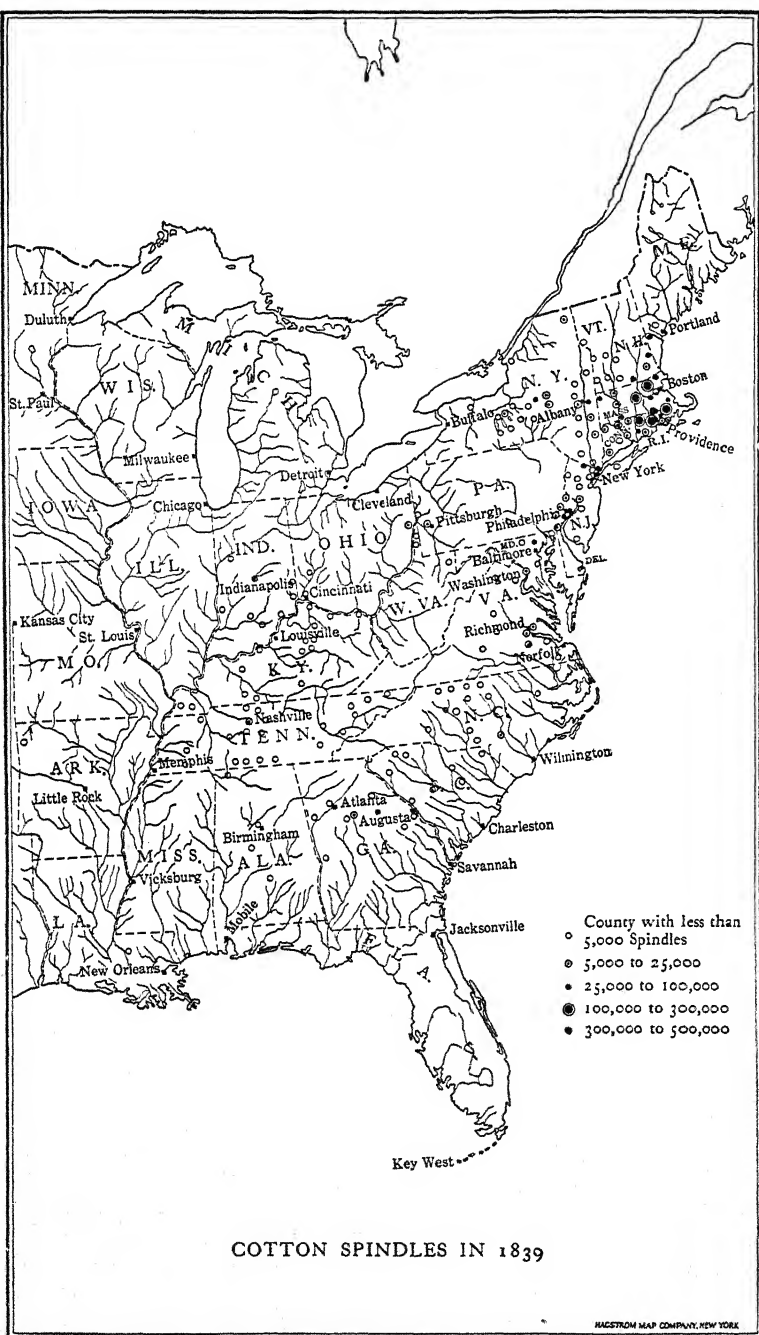
¹⁰ A bale contained 300 pounds at this period.

¹¹ V. S. Clark, *History of Manufacturing in the United States, 1607-1860* (Washington, 1916), 45-.

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was continuous. The best machinery was imported from England, surreptitiously until the prohibition upon its exportation was repealed in 1825, and skilled workmen were brought over to introduce the latest improvements in methods. Original inventions were also made by American inventors, adapting the machinery to the conditions peculiar to a new country where labor was scarce and dear. Mule spindles, which were operated by skilled adult labor were highly developed in England and there the first successful automatic machines were made. In the United States, on the other hand, throstle spindles, which could be operated by women and children, were perfected, although they did not produce such fine yarn. Labor conditions and lack of a market in this country checked the progress of finer manufactures, but stimulated the production of durable goods for ordinary uses which could be turned out in standardized lines.

From the beginning the cotton industry led all other manufactures in the amount of capital invested, the number of persons employed, and the value of the product. In 1830 the United States was second only to England in the amount of cotton consumed, and exceeded by England and France alone in the number of spindles. The typical factory was, however, a small plant and the average unit had only 1500 spindles. The industry was early localized in the New England states, especially Massachusetts, three-fourths of all the cotton goods produced in 1840 being turned out by New England mills. The advantages of this section for manufacturing were close settlement, a population apt with machinery, numerous easily developed water powers, and an active commerce; and so great were these that they overcame the disadvantage of lack of most of the raw materials that entered into its varied manufactures. Between 1840 and 1860 the number of spindles more than doubled, the cotton industry growing nearly twice as fast as the population. Part of this enlarging output of textile mills represented a transfer from the home to the factory rather than an absolute growth of production. An effort was made to introduce cotton manufactures in the South, but the absence of a large local demand, the lack of skilled operatives, and the



COTTON SPINDLES IN 1839

MADE FROM MAP COMPANY, NEW YORK

greater profitableness of cotton-growing prevented its development. In 1860 the total number of spindles in the South was only 290,000 or three-fourths of those in the single city of Lowell. The development in the West was even more backward. This is well shown by the map on page 403. By this time cotton-manufacture had reached a high stage of development. Six-sevenths of the cotton goods consumed in this country were made here, only the finer grades being imported.

The progress of cotton manufactures is shown statistically in the following table.

COTTON MANUFACTURES, 1830-1860						
<i>Year</i>	<i>Number of establishments</i>	<i>Capital</i>	<i>Number of employees</i>	<i>Number of spindles in factories</i>	<i>Raw cotton consumed (pounds)</i>	<i>Value of manufactured product</i>
1830	795	\$40,614,984	62,157	1,246,503	77,757,316	\$26,000,000
1840	1240	51,102,259	72,119	2,284,631	118,500,000	46,350,453
1850	1074	76,032,578	94,956	3,634,000	272,527,000	65,501,687
1860	1091	98,585,269	122,028	5,235,727	422,704,975	115,681,774

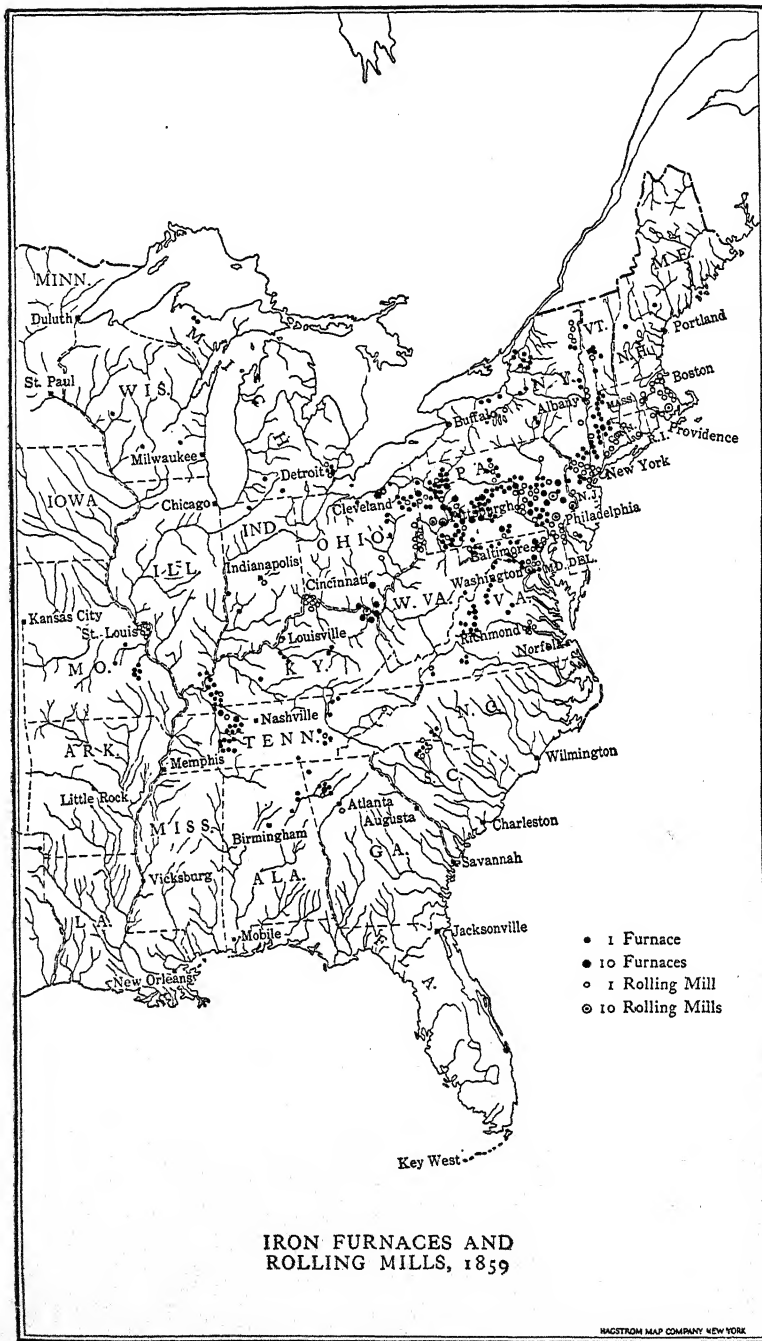
The iron industry.—The use of metals, and especially of iron, has by common consent come to be considered the best measure of a nation's industrial progress. Judged by this standard the United States advanced rapidly during the half century ending with 1860, for the output of iron multiplied nearly twentyfold, while the population only quadrupled. Beginning with 1790 American ironmasters enjoyed considerable prosperity, which was enhanced from 1807 to 1814, when importations were cut off and a great increase in production and manufacture of iron took place. After the conclusion of peace successive tariff measures granted considerable protection to the iron industry, while technical improvements were introduced both in smelting the crude iron and in working the pig up into manufactured products.

As long as pig iron was smelted with charcoal, the United States, with its inexhaustible forest at the water's edge, had

a great advantage, and during the colonial days had exported considerable pig iron to England. But the use of coke, the invention in 1820 of the hot-air blast, and improved machinery, reduced the cost of coked iron in England below that of producing charcoal iron in this country. As the forests were cut down and wood became scarcer the cost of production kept increasing. So long as charcoal was used the iron furnaces were necessarily small affairs, producing only from two to four tons a day. About 1840 the smelting of iron in this country was revolutionized by the substitution of anthracite coal for charcoal, and by 1860 record runs had risen to over fifty tons a day.

The use of anthracite had long been known: as early as 1769 an ingenious blacksmith in the Wyoming Valley is reported to have used it locally, and some years later several "ark" loads were floated down the Schuylkill to Philadelphia. The difficulties of transportation, however, and lack of suitable stoves and furnaces prevented its general use. Gradually its possibilities became known; in 1834 the hot-air blast was adopted in this country, and it now became possible to use anthracite in blast furnaces. About 1840 better means were devised for heating the blast by the use of the combustible gases emitted from the furnace. This raised the temperature, increased furnace product, and saved fuel. Frederick W. Geissenhainer was the American discoverer of this process which he patented in 1833. Blowing engines were improved and made more effective by the use of steam-driven motors instead of the old leather bellows operated by water power. About 1850 the use of coke began in the United States, and a little later uncoked bituminous coal was used. These fuels assumed little importance, however, until after 1860, and did not surpass anthracite as a blast furnace fuel until 1875.

The use of anthracite coal and improvements in processes affected not only the production of pig iron, but also iron manufactures. The early method of refining iron, in order to get rid of the excess carbon, was to heat the pigs in a furnace and then hammer them out on an anvil; this operation often required several reheatings. In 1817 the puddling and rolling process, invented in England thirty years



[After Clark]

earlier, was introduced into the United States. By this method the molten iron was first puddled or stirred to expel the carbon (which made the iron too brittle for many purposes), then passed through a squeezer to expel the cinder, and finally rolled into bars. These improvements came just in time to supply the vast demand created by the building of railroads. Until 1845 there were practically no facilities for manufacturing the rails needed for the rapidly expanding railroads, and they were mostly imported from England. With the making of the first heavy rails in this country in 1845 there began a new era in iron-rolling, which up to this time had produced chiefly bars for making nails. By 1850 there were sixteen rail mills in existence with an annual output of 100,000 tons; by 1860 their number had doubled.

The map on the preceding page shows the distribution of the primary iron industry in the United States in 1859. A heavy concentration is shown in Pennsylvania, which made more than half of all the iron produced and manufactured in the United States. The early importance of New England, dependent upon bog ore, had departed. Anthracite now gave the primacy to those districts which could easily and cheaply obtain this fuel. Ohio, however, ranked second, while a third iron district, using charcoal as a fuel, was located in western Kentucky and Tennessee.

Reproductive metal manufactures, producing articles ranging from heavy castings down to the smallest household articles, made even more rapid progress than did the primary iron industry. Castings were substituted for wooden parts of steam engines and other heavy machines, but the greatest advance occurred in making light, strong, and ornamental castings. These were in especial demand for stoves, sewing machines, and builders' hardware. The United States early took the lead from all nations in the application of automatic machinery to metal working. By combining this with the system of interchangeable parts, what was essentially a new system of manufacture was developed. Machines for cutting nails and making card-teeth for carding cotton, invented before 1790, were followed by others for making tacks, screws, spikes, bolts, rivets, files, chains, and pins. An equally striking illustration of the ingenuity of American

producers is furnished by the manufacture of brass clocks, the parts of which were stamped out by machinery and which for cheapness and excellence were without rivals.

But automatic machinery was not confined to industrial establishments; it was made to perform household tasks. An observant Englishman wrote¹² at the end of this period: "Thus we find America producing a machine even to peel apples; another to beat eggs; a third to clean knives; a fourth to wring clothes; in fact, there is scarcely a purpose for which human hands have been ordinarily employed, for which some ingenious attempt is not made to find a substitute in a cheap and efficient labour-saving machine."

Other manufacturing industries.—The important industries which were developed during this period, the value of whose product in 1860 exceeded \$25,000,000, were the following, given in order of importance: flour and meal, cotton goods, sawed lumber, iron and its manufactures, boots and shoes, men's clothing, leather and skins, woolen goods, miscellaneous machinery, sugar refining, provisions, printing and publishing, carriages. A survey of the list shows that many of the most important so-called manufactures at this time were closely allied to the extractive industries; the development of pure manufactures on a large scale did not occur until some time after the Civil War. Most of these industries expanded steadily in response to the demands of an enlarging market rather than because of any profound technical changes in them. These do not therefore call for any further description. Two industries, however, are deserving of special mention, as they were peculiarly characterized by the application of machinery to their methods of production, with resulting revolutionary changes therein. These were the men's ready-made clothing and the boot and shoe industries; their machine production was peculiarly an American development and was made possible by the invention of the sewing machine in 1846 by Elias Howe.

The distribution of miscellaneous manufactures was fairly general throughout the country, every state being represented; New York, Pennsylvania, Massachusetts, and Ohio led in the value of output, in the order given. It is impos-

¹² S. M. Peto, *Resources and Prospects of America* (London, 1866), p. 100.

sible to give any complete statement of the growth of manufactures during this period, as no adequate statistics were collected until 1850, but the following table shows the important facts for the years 1850 and 1860:

GROWTH OF MANUFACTURES (Including lumbering and fisheries)					
<i>Year</i>	<i>Number of establishments</i>	<i>Wage earners (average for year)</i>	<i>Wages</i>	<i>Cost of raw materials, fuel, and containers</i>	<i>Value of products</i>
1850	123,025	957,059	\$236,755,464	\$555,124,000	\$1,019,107,000
1860	140,433	1,311,246	378,878,966	1,031,605,000	1,885,862,000

Products of small shops and establishments producing yearly less than \$500 each were not included in these returns, but this domestic or hand industry probably amounted to \$100,000,000 more. There was already showing itself a tendency to localization of particular manufactures in localities favorable to that industry. Thus New England ranked first as the seat of the textile industries, cottons being concentrated in Massachusetts and calicoes in Rhode Island. Bonnets and straw goods and boots and shoes were also strongly localized in Massachusetts, and hardware and rubber goods in Connecticut. The center of the coal and iron industries shifted to Pennsylvania in 1810 and the primacy of that state remained unshaken throughout this period. A few other cases of strong localization existed, primarily owing to the existence of supplies of raw material—such as turpentine in North Carolina, lard in Ohio, and lead in Wisconsin—but the great territorial division of industry did not occur until after 1860 when the transportation systems were more fully developed.

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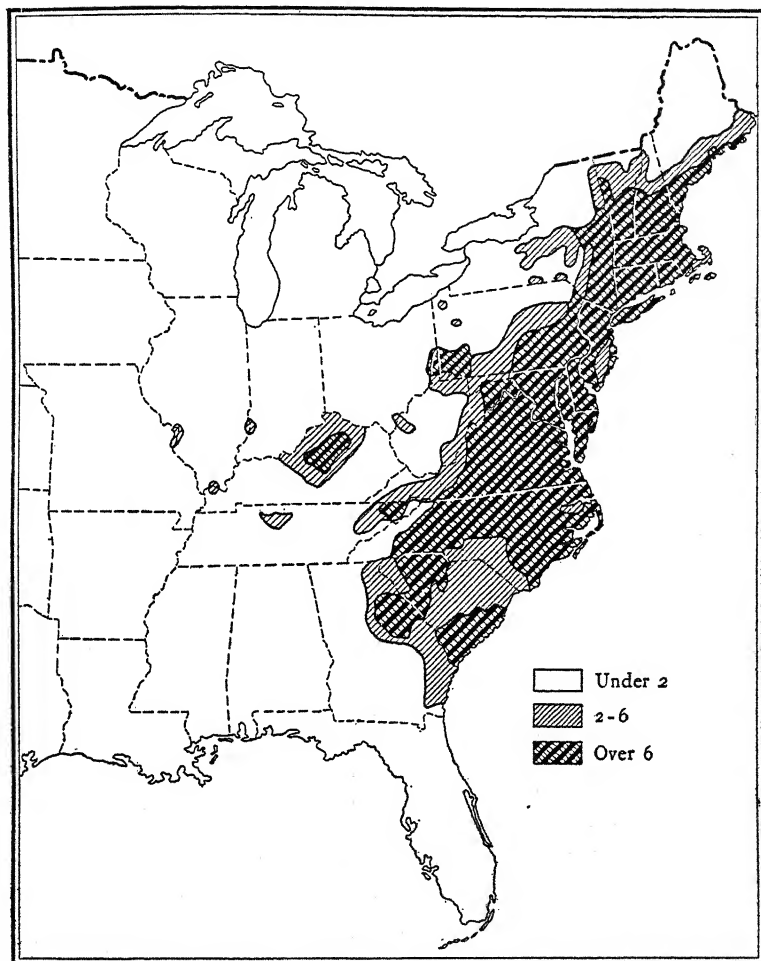
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CHAPTER XVII

POPULATION AND LABOR

Growth of the population.—In accordance with the section of the Constitution providing for a decennial enumeration of the inhabitants of the United States for the purpose of apportioning representatives and direct taxes, the first census was taken in 1790. This was not merely the first in this country, but was the first periodic census in any nation, for not until 1801 did England and France make provision for similar statistical inquiries, while other countries came still later. The census of 1790 recorded a population of 3,930,000, which was almost evenly divided between the North and the South. Most of the people (about 69 per cent) were native whites of English descent, for there had been little immigration since the beginning of disturbances attendant upon the Revolution; but there was an admixture of various other white racial elements (about 12 per cent) and about a fifth of the population (19 per cent) were Negroes, most of whom were to be found in the South.

The majority of the people still lived along the Atlantic seaboard, although the movement to the West was already beginning which was to drain the East of much of its population. At this time Virginia was the most populous state, followed by Pennsylvania, North Carolina, Massachusetts, and New York. Manufactures had not yet developed sufficiently to bring about the great development of the industrial states which was to follow the introduction of the factory system, and consequently the agricultural and commercial states held the lead. The rural communities were largely self-sufficing, supplying their wants by farming and by household industries. In the seaboard cities there was considerable commerce, but inadequate means of transportation prevented foreign wares from penetrating far inland. The largest city in the country in 1790, Philadelphia, had a



POPULATION PER SQUARE MILE, 1790

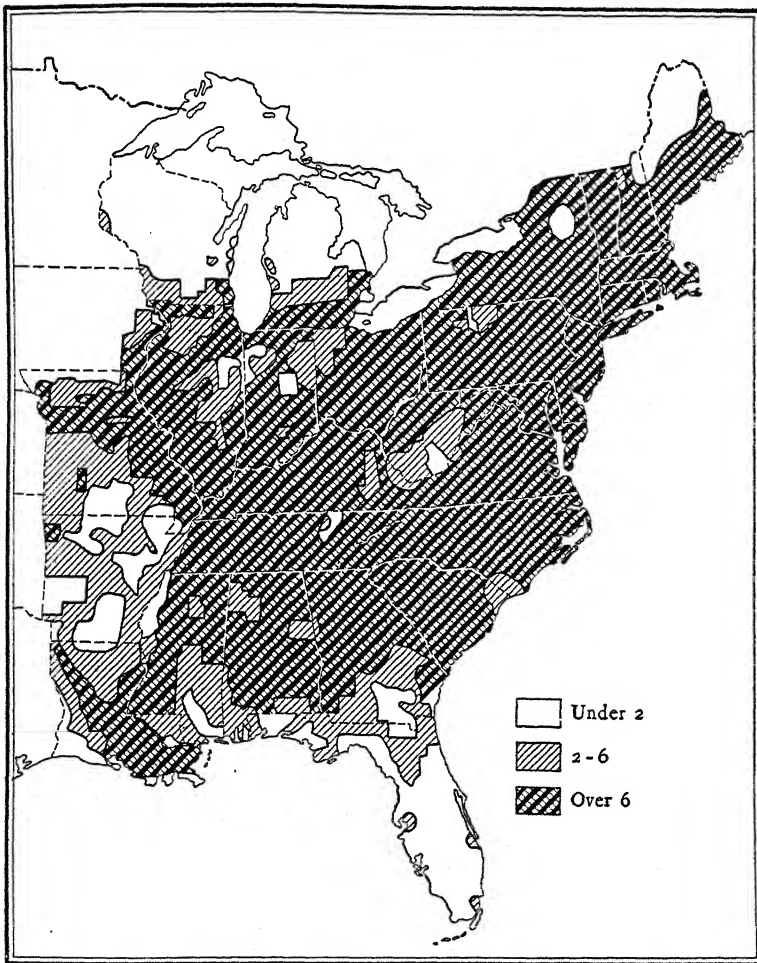
population of only 42,444, while New York, which ranked second, had 33,131, followed by Boston (18,028), Charleston (16,359), and Baltimore (13,503); no other city had over 8000 inhabitants and only 3.3 per cent of the people lived in towns of 8000 or more.¹

During the next seventy years the population grew steadily and rapidly, increasing each decade almost thirty-five per

¹ *Abstract of the Fifteenth Census of the United States* (Washington, 1933), 23.

cent, which is equal to a doubling of the population every twenty-five years. By 1820 there were 9,600,000 persons in the United States, and this number rose to 17,000,000 in 1840 and 31,000,000 in 1860. The distribution of the population at three selected dates is shown in the accompanying maps. Most of this increase was due to the natural excess of births over deaths, as immigration did not become important until toward the end of the period. Not merely was the rapidity of the growth remarkable, but certain significant changes occurred in the composition and distribution of the population. These changes were the increase in immigration, the westward movement, and the growth of cities.

Population changes : immigration.—No official immigration records were kept until 1820, but estimates have been made which indicate that between 1789 and 1820 about 234,000 aliens arrived in this country or about 7700 a year. It is not surprising that the movement should have been so small for numerous factors conspired to hamper it. The interruption of normal relations during the Revolution, the long period of depression which followed it, the European wars which gave employment at home, our own embargo and War of 1812 and the panic of 1819, as well as the expense and hazards of the ocean voyage all tended to discourage immigration. After 1820, however, a period of good times set in—interrupted only by the panic of 1837 and the resulting depression—and this, combined with a number of bad conditions in Europe, brought an ever-swelling tide of immigrants to the United States. During the twenties immigration was small, but in the thirties the industrial depression in England sent overseas a larger emigration, bringing the number up to 100,000 in 1842. But the first great wave occurred after 1845, owing to the potato famine in Ireland in 1846, which drove a million and a quarter destitute Irish to this country in ten years, and to the political disturbances in Europe in 1848, which resulted in a large exodus of Germans and others. At the same time the United States offered extraordinary attractions: the demand for labor at high wages, the availability of cheap land, and the discovery of gold in California in 1848, together



POPULATION PER SQUARE MILE, 1840

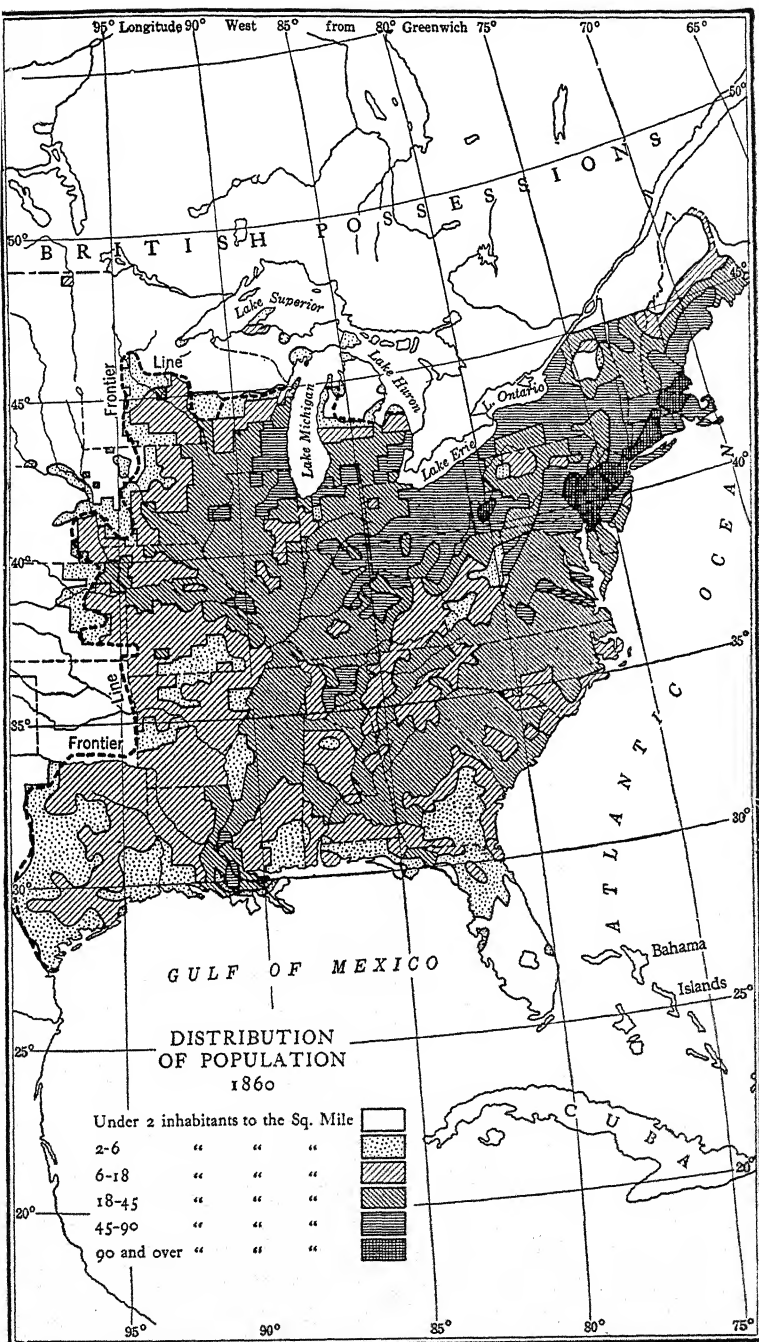
with the cheapening and quickening of ocean transportation through the introduction of ocean steamers—all these factors stimulated a large population movement toward this favored land.

Of the immigrants landing during this period over half came from Great Britain and Ireland and nearly a third from Germany. The Irish furnished much of the unskilled

labor for the works of internal improvement or settled in the eastern cities, while the Germans and the English tended to take up farms in the central states. The colonizing movement of the Far West was effected chiefly by persons of native birth, who gave place to the newcomers in the eastern and central states and themselves pushed on to the frontier. The annual arrivals of foreign-born increased steadily until they reached 427,833 in 1854, a figure that was equalled only once in the next twenty-five years. The number of persons of foreign birth living in the United States in 1850 was 2,240,535, and 4,131,866 ten years later. Equally significant with the large number was the fact that two-thirds (67 per cent) of the arrivals were between 15 and 40 years of age and almost two-thirds (60 per cent) were males, thus adding greatly and immediately to the labor force, and aiding in the industrial upbuilding of the country. Such a large infusion of vigorous foreign blood quickened the movement of the population and developed habits of change and enterprise.

Westward migration.—The second important change, namely the steady and irresistible westward movement to the unsettled public domain, resulted in a continuous redistribution of the population. This is clearly shown by the maps on pages 413, 415, and 417. The most rapidly growing sections of the country during the first half of the century were those west of the Allegheny Mountains, especially the north central States of Ohio, Indiana, Illinois, Michigan, and Wisconsin. The census of 1850 showed that almost half (45 per cent) of the population lived west of the Allegheny Mountains. After 1850 the states west of the Mississippi River began to feel the effects of the movement and also gained in numbers. New England and the other eastern states, on the other hand, were alarmed over the loss of their population. The extent to which people availed themselves of this outlet in the West is seen in the fact that of the population of Iowa, Minnesota, and Wisconsin in 1860 over 43 per cent came from other states in the Union and 27 per cent from foreign countries.

Since the westward movement has already been described, it is sufficient at this point merely to call attention to its

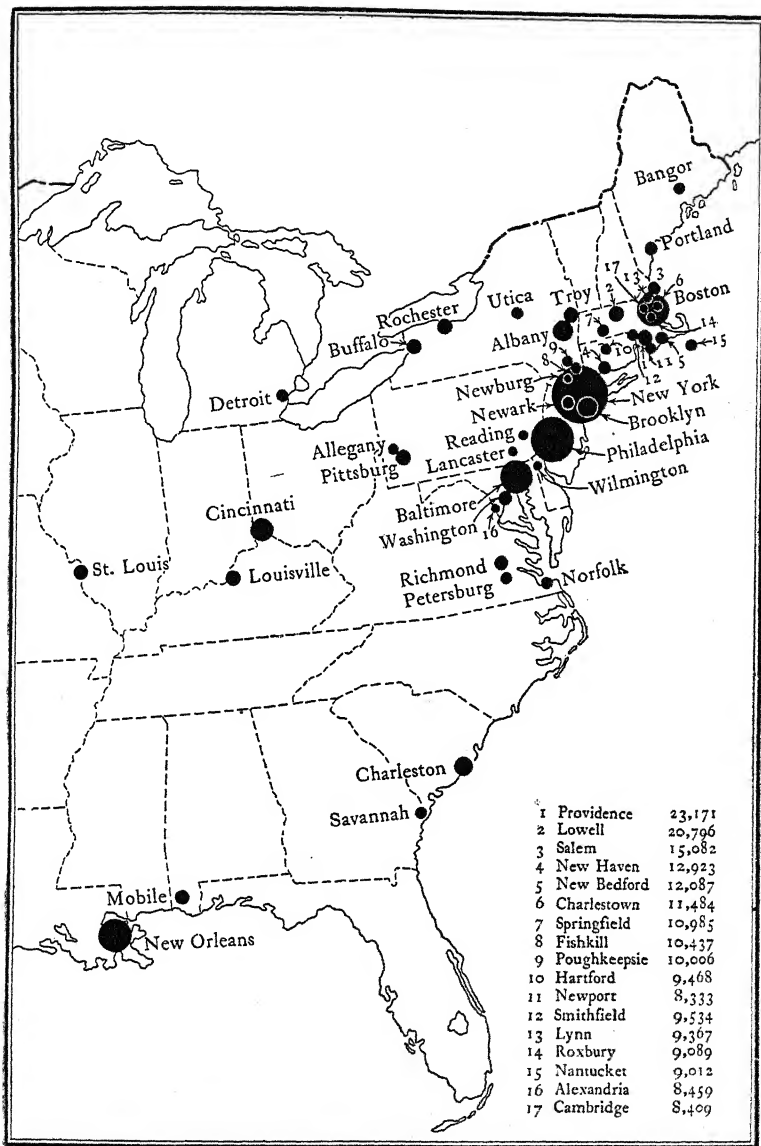


effect in bringing about a redistribution of the population and in spreading the growing numbers over a widening area. "A few clear-headed men," wrote Miss Martineau, "have foreseen the evil of so great a dispersion of the people as has taken place."² The population spread faster than it increased, so that with each acquisition of new territory the density of the population per square mile decreased. "About two-thirds of the inhabitants of America," stated Wakefield, "pass the greater part of their lives in comparative loneliness."³ As a result of the lack of social intercourse these pioneers sank, or were thought to be in danger of sinking, into a state of semi-barbarism. The diffusion of the population was also considered to retard the accumulation of capital and to affect adversely the development of manufactures in the older states until improved transportation facilities made the newer settlements accessible.

Urban growth.—The third significant population change of this period was the growth of the industrial city. The movement of the population to the city, which was first perceptible in the twenties, became marked after 1840. This is evidenced by the number of cities with a population of eight thousand or more, which grew from 5 in 1790, to 44 in 1840, and 141 in 1860. For the same three dates the percentage of the population living under these urban conditions increased from 3.3 to 8.5 to 16.1. The distribution of these cities for 1840 is shown on the map on page 419. The city population grew five times as fast as that of the country as a whole. Then, as now, the chief causes of this urban concentration were the improvements in the means of transportation and the increasing use of machinery. Population was massed in the growing factory towns in order to supply the needed labor for the expanding manufactures, while the western prairie and southern cotton fields furnished the necessary food and raw materials. The industrial towns of New England grew the fastest, and places like Lowell, which were unheard of in 1820, became flourishing cities by 1860. New York grew during the twenty-year period

² Harriet Martineau, *Society in America* (2 vols., New York, 1834-36), II, 67.

³ Wakefield, *England and America* (London, 1834), 199.



URBAN CONCENTRATION, 1840

1840-60 from 300,000 to 800,000, and Chicago from 4400 to 109,200.

As a result of this rapid increase of urban population there arose problems of housing, of overcrowding, insanitary conditions, cellar dwellings, and high rents, which were gradually corrected by new building. Most of this industrial development took place in the North, where there were four times as many towns of over eight thousand inhabitants as in the South. Such cities as had grown up in that section of the country were less industrial than commercial, and depended for their prosperity upon the cotton, tobacco, and sugar trade rather than upon textile or iron manufacturing. Cotton presses and warehouses, not factories and foundries, filled the business sections and gave employment to labor. In the decade 1850-60 the movement to the cities slackened perceptibly, owing to the gold discoveries and the rush to the Far West. Not until 1880 did the drift cityward proceed again as rapidly as it did between 1840 and 1860.

The following table shows the growth of the population and its distribution from 1790 to 1860:

THE POPULATION OF THE UNITED STATES, 1790-1860						
<i>Year</i>	<i>White</i>	<i>Colored</i>	<i>Total</i>	<i>Immigration during decade ending with year</i>	<i>Per cent of growth of population during decade ending with year</i>	<i>Per cent of total in towns of 8000 inhabitants or over</i>
1790	3,172,006	757,208	3,929,214	about 234,000		3.35
1800	4,306,446	1,002,037	5,308,483		35.1	3.97
1810	5,862,083	1,377,808	7,239,891		36.4	4.93
1820	7,862,166	1,771,656	9,633,822		33.1	4.93
1830	10,537,378	2,328,642	12,866,020	143,439	33.5	6.72
1840	14,195,805	2,873,648	17,059,453	599,125	32.7	8.52
1850	19,553,068	3,638,808	23,191,876	1,713,251	35.9	12.49
1860	26,991,491	4,441,830	31,443,321	2,598,214	35.6	16.13

Industrial organization.—It has already been pointed out⁴ that the organization of industry was undergoing constant change during this period and that frequently two or

⁴ See Chapter XVI, p. 381.

three types of organization might exist side by side in different industries. The clear cut distinction between employer and employee developed only gradually and by stages, which it is necessary to trace before undertaking to discuss the labor movement. During the colonial period many articles were produced in the home, and in these household industries there was no possibility of price or wage struggles, for the producers and consumers were identical. Even the itinerant artisan, working up the raw material belonging to his customer in the home of the latter, was at little disadvantage, since labor was still so scarce that his wages remained high. When population became denser, the handicraftsman set up his own shop, where he worked up his own material on order from his customers, who were his neighbors. In the language of the day his product was a "bespoke" product. In this custom-order stage of industry the three functions of merchant, master, and journeyman were united in the same person, and the only things which threatened his returns were the poor quality of his own work or the competition of other handicraftsmen.

The next stage came when the master workman began to employ journeymen, and also to make goods in advance of orders for sale in his shop to transient visitors, in addition to the custom-made articles. The journeyman now occupied a less stable position, for he no longer owned the raw material or the shop, although he still retained his hand tools. Owing, however, to the restricted area of the market the relations between master and journeyman remained harmonious; they worked side by side and were not sharply differentiated either by earnings or social position. Conflicts over wages or hours were consequently infrequent. This retail shop stage prevailed in the shoe industry in Philadelphia in 1789.⁵

The next step was revolutionary for the worker. Improvements in transportation began to widen the market, and some of the more wealthy and enterprising merchants sought orders in the newly developing markets of the West and South. By 1800 trade was carried on by Philadelphia merchants as far west as Pittsburgh and Cincinnati and as far

⁵ *A Documentary History of American Industrial Society*, III, 30.

south as Charleston and New Orleans. In these distant markets the merchants sought orders for goods to be made and delivered later. But here the competition from other centers of manufacture, also seeking orders, forced the merchant, now become a wholesaler, to offer his goods at as low a price as possible. The attempt of employers in this wholesale-order stage to reduce wages so that they could meet distant competition was the beginning of the conflict between labor and capital. But this severer competition also led to efforts to lower costs of production by the use of machinery, which was eagerly sought from England or invented at home, by better technical education of apprentices, and for tariff protection against importation of foreign goods.

Market practices were revolutionized by the improvement of transportation through the building of canals, and still more by the advent of the railroad and the steamboat. These greatly widened the markets and the areas of competition, exposing the worker to new and powerful forces in the determination of his wages. Down to 1860 the extension of markets, owing to the growth of population and improved transportation facilities, was the most important factor which brought about class struggles and the labor movement; after 1860 new inventions and changes in the technical process of industry came to have greater effects. In each period the conflict between labor and capital was due to changes in the bargaining power of the two groups resulting from changes in markets or the technique of production.⁶

With the widening of markets and sale to distant customers it next became necessary to extend long-time credit, and this required capital. New banking facilities came into being and a new credit system which favored the larger producer. Under these conditions there developed a new type of merchant—capitalists or merchant-manufacturers—who took over the wholesale business now made possible by the wider markets, with the recently added warehouse and commission business. The former master became a

⁶ J. R. Commons, and others, *History of Labour in the United States* (2 vols., New York, 1918), I, 26.

small contractor, employing one to a dozen journeymen, and sold his product to this merchant wholesaler instead of to his customers. The older "bespoke" and shop work gave place to production for sale, and price was now determined by competition rather than by custom. Wages also became competitive and a distinct wage-earning class appeared which did not own even its tools. The journeyman consequently became a wage worker and found himself exposed to new forces of competition which threatened his wages and standard of living: contract prison labor, sweatshops, homework, and the pressure of other localities all tended to force down the rate of wages. Against these conditions labor first began to combine; and since the skilled mechanics were the first to feel the pressure, it was natural that they should be the first to organize the early trade unions.

Early labor organizations.—The first continuous organization of labor in the United States for the purpose of maintaining or advancing wages was that of the shoemakers of Philadelphia, organized in 1792.⁷ There had been sporadic outbursts and strikes during the colonial period, but these were temporary and no permanent organization had been effected. The shoemakers organized again in Philadelphia in 1794, as the first society had disappeared, and in the same year the printers of New York founded the Typographical Society. Between 1800 and 1820 the shoemakers and printers had more or less continuous organizations in Philadelphia, New York, Baltimore, Boston, Pittsburgh, Albany, Washington, and New Orleans. Strikes were conducted from time to time by carpenters, tailors, and sailors, but these workers seem not to have had any permanent unions. Their organizations came into existence to meet a particular evil, and disappeared when they had remedied it or were defeated. The period to 1820 may fairly be called the "dormant period" in the history of the American labor movement.

But the new forces of competition resulting from the improvement of transportation and the widening of the markets began in the twenties to rouse the worker to more aggressive action. "The period of isolation and enforced

⁷ *Ibid.*, I, 143.

self-sufficiency was at an end. Southern planters could ship their cotton and sugar from their river wharves to New Orleans or Mobile, where the season's crop was bought by a factor and loaded on to a sea-going vessel for delivery at New York or Liverpool. . . Means of transportation were at hand in the vast system of lakes and rivers that brought the remotest sections of the great interior valley into communication with the sea. The Great Lakes were inland seas, while the Mississippi River and its tributaries furnished 16,674 miles of steamboat navigation."⁸

Direct connection between the Atlantic seaboard and the interior was provided first by highways and later by canals and railroads, and freight rates were steadily reduced. The merchant-capitalist reached out for larger markets in which to dispose of his wares, but in these markets he met the competition of other producing areas. Forced to reduce his costs of production in order to obtain orders, he sought to cut wages as the easiest method. The workingmen resisted these encroachments upon their earnings and standards of living. Strikes became more frequent and stable organizations were effected in numerous trades, such as hatters, tailors, carpenters, painters, stonecutters, weavers, sailors, and cabinetmakers. The period from 1820 to 1840 is therefore called by Professor Commons the "awakening period" of the American labor movement.

Not until 1827, however, did the real labor movement begin, when the Mechanics' Union of Trade Associations was organized in Philadelphia. Until this time there had been only unions in separate crafts—trade unions—but there had been no association of the separate unions and no organization of workingmen as such for their common interests. Some of the earlier organizations seem to have been formed for purely benevolent purposes, and all of them were confined to the skilled workers; the unskilled laborers remained inarticulate and unorganized. This was only temporary, however, and in 1834 the first National Trades' Union in the United States was organized; this was a union of trades for

⁸ K. Coman, *Industrial History of the United States*. (Rev. ed., New York, 1910), 214, 215. Cf. also E. R. Johnson, *History of Foreign and Domestic Commerce in the United States*, I, 213-216.

a common object and brought together members from local unions as widely separated as Boston, Washington, and Cincinnati. It claimed a membership of 300,000 and held national conventions for three years before it finally disappeared with the panic of 1837.

Origin of labor movement.—The early labor movement in the United States did not spring from factory conditions, as it did in England where the separation of employer from employee was clear cut. In America the factory system at that time was almost entirely outside the labor movement, since the factories were confined to the cotton industry and most of the early factory workers were women and children or immigrants who were unorganized. It arose rather as a protest against the merchant-capitalist system, which was reducing the master and the journeyman to a common level of wage dependency. The movement was given a political turn in the late twenties through the abolition of property qualifications for voting and holding office, which extended manhood suffrage, thus placing a new and untried weapon in the hands of the unpropertied workers. As yet little had been done to protect the rights of labor by legislation; without political rights labor had been unable to exert any influence upon law-making. The economic environment of a new country, moreover, led to extreme emphasis upon industrial individualism. Now, however, labor began to make demands for better conditions along social as well as industrial lines.

Demands of labor.—Free schools, supported by taxes, were the first demand of enfranchised labor. Professor Carlton⁹ has shown that the movement for tax-supported schools was derived, not from great humanitarian leaders like Horace Mann, but from the growing class of wage-earners. The extent of the need is indicated by an estimate of 1833 that over one million children in the United States between the ages of five and fifteen were not in any school. Another demand was the abolition of imprisonment for debt; the laws on this subject were particularly harsh, and for indebtedness in even the smallest sum a man could be thrown into prison and kept there until his debt and the prison charges

⁹ F. T. Carlton, *Education and Industrial Evolution* (New York, 1908), 33.

were paid. In 1829 it was estimated that about seventy-five thousand persons were annually imprisoned for debt in the United States. The workingman as a wage-earner, on the other hand, often failed to get the full wages due him. He was paid at irregular intervals, often in store orders or in depreciated bank-notes, and if not paid at all was unable to secure his dues by a mechanics' lien on the product of his labor. Other issues that appeared in the workingmen's platforms were equal taxation, a less expensive system of legal procedure, no legislation on religion, direct election of all officers, a district system of elections, opposition to banks and other chartered monopolies, and abolition of the compulsory militia system. This political movement ended by 1832, and after that the unions emphasized economic and industrial aims.

The long hours of labor and overwork next demanded attention. Against the farmer's "sun to sun" the city mechanic raised the standard "six to six." Successful strikes in Philadelphia in 1835 initiated a movement that culminated in President Van Buren's famous ten-hour order in 1840 for all public establishments. High prices increased the cost of living and made the position of the wage-earner increasingly difficult; consequently the workingmen in 1835 favored hard money and opposed bank inflation, which was sending prices up to unheard-of heights. For instance, wheat flour in New York, which cost \$5.00 a barrel in 1834, had risen to \$12.00 in March, 1837; and all the necessities of life rose in similar proportion. The workingmen also demanded that the public lands, which were largely in the hands of speculators, be secured to the people, and thus afford an outlet to the oppressed wage-worker. And finally the workers protested against the competition of prison labor and of women and children, for whom they demanded factory legislation.

This early labor movement ended in 1837. The employers formed a counter-organization in New York and in 1836 obtained the conviction of twenty striking tailors on a charge of conspiracy. In the United States, as in England, the common law against conspiracy and combination was invoked against the workers and they were thrown into prison

for the crime of jointly refusing to work. Decisions in later cases followed the precedent thus set, and laborers were debarred from combining to raise their wages or improve their working conditions until the Massachusetts Supreme Court in 1842 decided in *Commonwealth v. Hunt* that unions were legal. As a result of the generally hostile attitude of the courts the workingmen went over to the Equal Rights Party and endeavored to secure a redress of their grievances by means of political action. The panic of 1837 gave the final blow to a movement that was already disintegrating, and after this attention began to be given more to panaceas and legislation.

The humanitarian movement.—The visit of Robert Owen to the United States in 1825 gave a rather fantastic turn to the humanitarian and labor movement of this period. Owen was the manager and part owner of a factory at New Lanark, Scotland, in which he had successfully introduced many reforms, such as the shortening of the working day, the prohibition of child labor, and the establishment of schools. He developed a far-reaching scheme of economic and social reform, and as he was unable to carry out all his plans at home he came over to this country to make further experiments, unhampered by opposition. He preached the doctrine of communism to the members of Congress and to audiences in all the principal cities. An attempt was made to carry out his plan in a communistic society which he founded at New Harmony, Indiana.

Although Owen himself spent some \$200,000 in this experiment it proved a failure, and went to pieces after a precarious existence of about two years. Eight or ten other communities were organized on the same basis of communism and human brotherhood, but they were equally short-lived. The paternalism and concentration of authority in Owen's scheme were unsuited to prevalent American ideas, and it had scarcely any effect on the labor movement. When the long depression from 1837 to 1842 again directed attention to labor conditions, the philosophy of reform was couched in a more individualistic form and hence met with a more general response.

The decade of the forties has been called the "hot-air"

period of American history—"the golden age of the talk-fest, the lyceum, the brotherhood of man." It was a period of philosophizing about human rights and of social and economic reforms along a great number of lines.¹⁰ Perhaps the most significant and far-reaching of these was *Fourierism*, or *Association* as it was more often called. Charles Fourier was a French writer, who before his death in 1837 elaborated a scheme of industrial organization on the basis of associated activity. Social harmony was the keynote of his system: people should group themselves in congenial industrial associations called *phalanxes*, each of which should contain about 1500 persons. They should live in a great central building, in which labor should be carried on co-operatively; each member should choose his occupation according to inclination, and vary it as soon as it became tiresome; the less attractive kinds of work should be the best paid. According to this scheme labor was to be made both dignified and attractive, and, since every one in the phalanx would work, it would also secure a larger reward than under the existing competitive régime.

This scheme of social reorganization was presented to the people of the United States by Albert Brisbane in a book published in 1840. A wave of socialism swept over the country. Immediate efforts were made to put these ideals into practice, and phalanxes or industrial groups were established by the dozen. Of these Brook Farm was the most famous; it was organized on a farm near Boston and numbered among its members such well-known men as Ripley, Channing, Greeley, and Wendell Phillips. All these experiments failed and gradually the Associationists began to pay more attention to particular remedies for particular evils, such as land reform and the organization of labor, or were diverted into the anti-slavery movement.

Two other reform movements which illustrate the efforts of labor to escape from such evils as the wage system with its alleged exploitation of workers were Agrarianism and

¹⁰ "The columns of advertisements in a newspaper might announce for Monday night a meeting of the anti-slavery society; Tuesday night, the temperance society; Wednesday night, the graham bread society; Thursday night, a phrenological lecture; Friday night, an address against capital punishment; Saturday night, the 'Association for Universal Reform.'"—J. R. Commons, *A Documentary History of American Industrial Society* (Cleveland, 1910), VII, 19.

Co-operation. The first of those, as set forth by Thomas Skidmore in 1829, asserted that all the evils of society were caused by the unequal distribution of property, and that reform could be achieved only by its equal division. Thus stated this doctrine made little impression, but fifteen years later George H. Evans applied the idea to the public domain, which he insisted should be given to the landless. Such a plan, he thought, would afford an escape to the dissatisfied workers for a thousand years. Agrarianism, with political action, rather than Association, was thus the best method of protest against capitalism. Somewhat more practical and more promising was the second movement, an attempt to introduce co-operation as a substitute for strikes. For a period of four or five years beginning with 1847 experiments at productive co-operation were carried on by the iron moulders in Cincinnati, the tailors in Boston and New York, the puddlers of Pittsburgh, the printers of Philadelphia, and other industrial groups, but they all failed. More successful was consumers' or distributive co-operation, of which the best example was the New England Workingmen's Association, which maintained itself from 1845 to 1858.

The factory system and labor.—While labor was seeking to reform society and to ameliorate general living conditions, changes were occurring in industrial organization which were to render such efforts futile. The factory system, which had been introduced in the textile industry at Waltham, was spreading into other forms of industry, especially branches of wood and metal manufactures. Those industries which permitted the mechanical production of uniform and interchangeable parts were the first to adopt power-driven automatic machinery with its resulting systematization of processes and administration of labor. Shortly before the Civil War the factory system dominated the making of firearms, agricultural implements, sewing-machines, musical instruments, clocks and watches, as well as textiles. The handicraft system, with its methods of apprenticeship, hand tools, and personal skill of the workman, which characterized industry at the beginning of this period and which still characterized most of the mechanic arts, was giving way to the factory system with its power-driven machines, use of un-

skilled labor, and a mobile and changing labor supply. The economy of factory production, which increased the output of labor enormously over the old hand methods, sometimes as much as 50 to 1, was so advantageous in a new country that it could not be prevented even by the objections of the Fourier associationists or other reformers.

But the factories were not uniform in organization or in their effects. Two types must be distinguished which may be illustrated by the Waltham or Lowell type and the Fall River type in the textile industries. The Waltham system of factory organization, which was also adopted at Lowell, Lawrence, Manchester, and generally throughout Massachusetts and New Hampshire, depended more on automatic machinery and less on operative strength or skill. These factories used throstle spindles and employed women both as spinners and weavers; centralized production was favored and hence the women employees had to be housed in company boarding houses. The Fall River type, on the other hand, following English precedent, used mule spindles and employed men spinners with very young children as helpers; the labor force was recruited from the local population who lived in their own homes or in company tenements. This type prevailed throughout Rhode Island, New York, Pennsylvania, New Jersey, and Maryland. On the whole, the result was a higher standard of labor conditions in large New England textile towns where the Waltham type of factories existed than in the small mill villages organized on the Fall River model. These distinctions must be kept in mind when reading contemporary descriptions of the factory system in America.

Another difference between these two factory types was in their ownership and control. Corporate ownership and organization was characteristic of the Waltham-Lowell type of factories, while individual or joint-stock ownership was relatively more usual in Rhode Island and the middle states. Corporate organization and management were needed in big industrial undertakings. The great problem of the new factory system was how to obtain the needed supplies of capital and to concentrate them under unified management. As long as the chief industries were agriculture and com-

merce this problem did not present any serious difficulties, but now that attention was being directed to manufactures, transportation, and banking, means had to be devised to bring together the necessary amounts of capital. The solution of the problem was found in the development of corporations with limited liability, and their organization proceeded rapidly during this period. Not only were charters freely granted to banks and transportation companies, with few restrictions against possible evils, but manufacturing companies were incorporated on generous terms in the industrial states. "Nearly all the railroads and turnpike roads, and many of the canals," wrote Seaman in 1852, "numerous colleges, universities, lyceums, library associations—nearly all the great manufacturing establishments in the United States were established, and are carried on by means of corporations." The growth of corporations did not proceed unnoticed or unchallenged by labor, and the first beginnings of monopoly drew forth industrial and political protest, which found expression in the platforms of the labor parties and in widespread labor agitation.

Efforts to attract labor.—One of the most serious obstacles to the introduction of manufactures in a new country is the scarcity and expensiveness of labor; this was mentioned by Alexander Hamilton and other early writers. As inventions multiplied and factories grew this lack was met by the employment of women and children and, later, of immigrants. With the decline of New England agriculture, the removal of occupations from the household to the factory, and the withdrawal of many of her young men to the more fertile lands of the West, there resulted an over-proportion of female population, and numerous young women in the agricultural sections were left with inadequate means of support. Work in the factories, which afforded an opportunity of earning money and of escaping the drudgery and dependency of farm life, was welcomed by them. Miss Martineau believed "that there was much silent suffering from poverty before the institution of factories; that they afford a most welcome resource to some thousands of young women, unwilling to give themselves to domestic service, and precluded, by the customs of the country, from rural labor."

To attract the young women needed in the factories of the Waltham type, it was necessary to assure them of respectable surroundings and the companies therefore found it advisable to establish boarding houses and to control the conditions of life as well as of work. The conditions at Lowell, the most famous of these early factory towns, were described as follows by Chevalier, a French traveler, in 1836:

"The cotton manufacture alone employs six thousand persons in Lowell; of this number nearly five thousand are young women from seventeen to twenty-four years of age, the daughters of farmers from the different New England states. . . . The manufacturing companies exercise the most careful supervision over these girls. I have already said that, twelve years ago, Lowell did not exist; when, therefore, the manufactories were set up, it also became necessary to provide lodging for the operatives, and each company has built for this purpose a number of houses within its own limits, to be used exclusively as boarding houses for them. Here they are under the care of the mistress of the house, who is paid by the company at the rate of one dollar and a quarter a week for each boarder, that sum being stopped out of the weekly wages of the girls. These housekeepers, who are generally widows, are each responsible for the conduct of her boarders, and they are themselves subject to the control and supervision of the company, in the management of their little communities. Each company has its rules and regulations." The rules thus alluded to required of the operatives industry, temperance, attendance at religious services, neatness, punctuality, and early hours.

Writing of the Fall River type, the editor of the *Voice of Industry* exclaimed in 1846, "I have seen no factory tyranny in Lowell, nor anywhere else in New England, which would compare with that existing in Rhode Island." And a communication in the *Mechanics' Free Press* of 1830 pictures the following conditions in Philadelphia factories:¹¹

"It is a well known fact, that the principal part of the help in cotton factories consists of boys and girls, we may safely say from six to seventeen years of age, who are confined to

¹¹ Quoted in J. R. Commons, and others, *A Documentary History of the United States*, V. 61.

steady employment during the longest days in the year, from daylight until dark, allowing, at the outside, one hour and a half per day for meals. In consequence of this close confinement, it renders it entirely impossible for the parents of such children to obtain for them any education or knowledge, save that of working that machine, and that too with a small sum, that is hardly sufficient to support nature . . . We are confident that not more than one-sixth of the boys and girls employed in such factories are capable of reading or writing their own name."

Sources of labor supply.—During the thirties there was a steady migration of farmers' daughters to the rapidly growing factory towns of Lowell, Lawrence, Manchester and other industrial centers. In the cotton mills of New England and the middle states two thirds of the employees in 1831 were women. In New England in 1860 about a third of all factory workers were women, though in the country as a whole the proportion was about one-fourth. Women were employed in largest numbers in textile mills, manufacture of boots and shoes, and ready-made clothing. Children were more largely used in the factories organized on the Fall River type, with the usual abuses of long hours, low pay, lack of education, and overwork. Some early mills recruited child labor from almshouses, but this was never so generally done as in England, partly because there were so few dependent poor in America.

The first legislation to protect child labor seems to have been passed in New Hampshire in 1847; this law limited the working day in factories to ten hours for children under fifteen. The following years Pennsylvania prohibited employment for more than ten hours a day in textile factories, and Maine limited the number of hours for children under sixteen to ten hours. A few other states enacted similar legislation, but it was scarcely more than a gesture, for no adequate provision was made for enforcement and the prohibitions could be evaded by specific contracts. Convict labor was used to some extent by contractors who set up their machinery in the prisons. All of these exercised a competition which became evident when labor unions, composed of adult males, tried to reduce hours or to raise wages.

In the forties, when the first great wave of immigration into the United States occurred, immigrants began to find employment in numbers. The effect of their competition was soon felt and as early as 1846 labor leaders complained that working conditions were worse in Fall River than at Lowell and that alien operatives were preferred by Rhode Island mill owners because under the state constitution they could not vote and were more submissive than native Americans. By 1860 Irish and British operatives constituted a majority of the mill population in Fall River. In factory towns of the Waltham type, with their lighter machinery and established boarding house system, foreigners did not gain such a foothold. The farmers' daughters who lived close at hand were, however, no longer adequate and girls from northern New England were recruited; these tended to constitute a more permanent wage class. Miss Martineau¹² stated that the employers resorted to the use of the services of foreigners as their "only safeguard" against the encroachments of their men by strikes. "All the strikes I heard of," she adds, "were on the question of hours, not of wages."

Hours and wages.—Hours of labor were, according to modern standards, extraordinarily long in all occupations, but nowhere longer than in the factories. The early movement for shorter hours had been successfully carried through by mechanics, artisans, and other workers outside of the factory, but now operatives in these establishments demanded relief.

An estimate of the time worked in factories, which may be considered representative of conditions throughout this period, was made in 1839 by James Montgomery,¹³ superintendent of a factory in Maine. According to his account the day's work at Lowell varied from 11 hours and 24 minutes in December to 13 hours and 31 minutes in April, the average for the year being 12 hours and 13 minutes per day. In many, and perhaps the majority, of the middle and southern states, he wrote, the average was even higher, being

¹² Harriet Martineau, *Society in America* (2 vols., New York, 1834-36), I, 343.

¹³ *Practical Detail of the Cotton Manufacture of the United States* (Glasgow, 1840), 173-174.

about $13\frac{3}{4}$ hours per day in summer and an average of about $12\frac{1}{2}$ hours per day throughout the year. A year later President van Buren set ten hours as a day's work in governmental establishments, and this was followed rather tardily by state legislation. In 1850 the average working day, according to the Aldrich Report, was $11\frac{1}{2}$ hours, a considerable reduction since the beginning of the century. The employing class was practically a unit in opposing the reduction of hours of labor.

Wages varied so from time to time and from one occupation to another, that it is difficult to generalize on this subject, but an analysis of the different classes of labor reveals certain tendencies. (1) Unskilled labor was always in demand and commanded wages perhaps fifty per cent higher than in Great Britain and not far below those of skilled mechanics. The main reason for this was the access to cheap land which gave the worker an alternative; wages must be high enough to overcome the lure of independent agriculture. The pay of agricultural laborers, who may be taken as representative of this group, ran from fifty cents a day at the beginning of the century to a dollar a day by 1860. (2) Expert artisans and mechanics were scarce relative to the increasing demand. The large returns in agriculture and commerce at the beginning of this period kept capable persons from entering manufacturing in large numbers. Most of the experienced operatives came from abroad, in spite of prohibitory legislation, and they received high pay. The wages of a skilled mechanic varied from about a dollar a day at the beginning of this period to about two dollars at the end. (3) The third group was factory labor, which was recruited chiefly from the women of the farms and villages. They usually undertook this work as a temporary service, the average period of employment in the New England mills being between four and five years. Children were also employed, and later immigrants, but none of these classes was organized and the effect of their competition was depressive.

The chief force which kept their wages from falling to the European level was the rapid growth of the factory system, which was able to absorb the labor supply flowing from

the household into the factory, as well as the pressure of a higher standard of living in this country and the opportunity of engaging in other pursuits. The wages of factory workers were miserably low, however, those of a woman operative ranging from about one dollar a week in 1791 to three dollars a week in 1860. Male workers received about one dollar a week more than women. The wages of all of these groups were from one-third to one-half higher than those of the corresponding classes in England, and the tendency of nominal wages, omitting temporary depressions, was steadily upward.

Real wages.—The movement of wages alone, however, unrelated to prices, means little, and it is therefore necessary to inquire what prices were. "The cost of living in general was low," writes Professor Jennings,¹⁴ "as would be surmised from the wages. Morris Birkbeck referred to the opportunities enjoyed in the West in 1817, where the best board could be obtained for \$2.00 a week and the traveling expenses for man and horse were only a dollar a day. Board in the East was also low. Harvard students paid only \$1.75 a week in 1820. . . . In most of the older eastern states in 1850 board was less than \$2.00 a week. In 1854, according to Charles Richard Weld, the 'young ladies' of Lowell paid only \$6.00 a month for board and lodging, while they earned \$3.50 each week." This was in good times; in times of depression and unemployment, or in periods of rapidly rising prices due to inflation of the currency, even the low prices were beyond the reach of the poor and their sufferings were great. Indeed, Professor Commons,¹⁵ the leading authority on the history of labor in the United States, believes that the great labor movements of this country are closely related to the fluctuations of prices.

The years 1807, 1819, 1837, and 1857 were years of panic and ushered in periods of depression of varying length, during which wages fell and unemployment increased. The most serious of these was the panic of 1837; during the seven-year depression which followed, wages were generally

¹⁴ W. W. Jennings, *A History of Economic Progress in the United States* (New York, 1926), 303.

¹⁵ *A Documentary History of American Industrial Society*, V, 19. See also chart on p. 18.

reduced. The rise in prices which began in 1843 at first had the effect of increasing the cost of living to the working classes, but the general industrial expansion which characterized this period made employment general and ultimately led to improved conditions. Wages rose between 1840 and 1860, and while prices also increased, they did not do so in the same proportion. According to the Aldrich report, if wages and prices in 1840 be stated as 100, relative wages in 1860 were 121.2 and relative prices 101.5, indicating a relative improvement in the economic status of workingmen equivalent to about twenty per cent.¹⁶ It seems to be unquestioned that the American workingman could and did purchase more with his earnings in 1860 than was possible in 1800 or 1840.

This growth of real wages, in the face of the rapid growth of population, was thought by Professor Bowen¹⁷ to be a unique phenomenon. "I attribute the result, therefore," he wrote, "to American institutions more than to the fact that America is still a new country, and is rich in fertile and yet unoccupied land. The mobility of society, the wider distribution of property, the absence of caste, *la carrière ouverte aux talens*, and other peculiarities created and fostered by our laws, are alone sufficient to account for the phenomenon." Writing in 1836, a year of prosperity, Chevalier commented on "the appearance of general ease in the condition of the people of this country," and at the close of this period another traveler, S. M. Peto, reported favorably upon the absence of pauperism in the United States and the universal appearance of respectability. In addition to increased wages the working classes also secured an amelioration of various political, educational, and legal conditions which had hitherto worked to their disadvantage. Thus imprisonment for debt was gradually abolished after 1823, the public school system was developed, mechanics' lien laws were passed, the hours of labor were shortened, and other reforms introduced. It was only in the North, however, that these industrial changes were taking place; in the South the blight of slavery prevented all development in industry and condemned agriculture to stagnation.

¹⁶ Compare chart on p. 669.

¹⁷ Francis Bowen, *American Political Economy* (New York, 1870), 181.

Labor organization.—The development of the factory system, the greater use of machinery, the still further widening of the market through improvements in means of transportation, the formation of corporations, the coming of the immigrants in large numbers, and other factors were all serving to break up the old economic levels and to introduce active elements of change. The humanitarian movement of the forties gradually gave place to a more practical program in the fifties. The cause of labor had been almost submerged in the ambitious attempts at general social amelioration. Philosophical, humanitarian, and political protest had taken the place of organization and strikes. After the failure of Fourierism had shown that the labor problem was not soluble by associationism, the workingmen turned to co-operation; but this movement had an even briefer history. The efforts of the social reformers were diverted into the anti-slavery struggles after 1852, and the workingmen were left alone to work out their own salvation. Gradually there emerged out of this chaos of experiments and reforms a "pure and simple" trade union movement which Professor Commons dates from about 1853.

The skilled trades settled down to the practical task of getting more pay for themselves by means of permanent and exclusive organizations. A new type of union was established, which steered clear of all programs of social and political reform and confined its activities to improving conditions in the trade. "Its main weapon was the strike; its aim, to establish a minimum wage for the trade and to maintain it by means of a closed shop." Down to about 1850 employers had frequently been included in the membership of unions along with the workers, but by the end of this year scarcely a union admitted them.

Collective agreements began to be made between unions and employers, which fixed the wages, hours, and other conditions of employment, and by 1854 this method had largely supplanted the system of dealing with employers as individuals. Specific problems were attacked in these agreements, such as the regulation of apprenticeship, minimum wages, time and method of wage payment, strike benefits, joint employment offices and other matters. Unfortu-

nately, the panic of 1857 shattered most of the organizations attempting these reforms, and it remained for the more permanent unions of a generation later to carry them out. Labor organization during this period was confined for the most part to the formation of small local unions; the first national union, that of the printers, was not established until 1850 and by the time of the Civil War only five trades had national organizations.

Industrial revolution.—This period has frequently been called, in imitation of English precedent, that of the American "industrial revolution." It may more properly be called an era of industrial evolution. But if the English term is applied to it several fundamental differences between the two countries must be noted. (1) In the first place, previous conditions of industry in the two countries were vastly different. There were no vested interests in the United States either of fixed capital or of painfully acquired skill to resist innovations or the introduction of machinery. Instead of frame-breaking riots such as occurred with Arkwright's machines in England, the planters in the United States broke into Whitney's barn and stole his cotton gin in order to use it more quickly. (2) The products of the new manufactures were absorbed easily and quickly in the United States by the growth of the domestic market in the South and West. Indeed, labor-saving machines and improved processes were welcomed in the United States in the endeavor to meet the expanding market. New inventions did not often displace labor, but rather helped labor to produce the needed supplies. (3) The development in the United States was steady and rapid, but was not a revolution. Labor was in constant demand, and was quickly absorbed. The harrowing conditions which accompanied the industrial revolution in England were lacking here. (4) Access to cheap land in the United States kept wages on a higher level, since they had to be high enough to induce men to work for wages instead of becoming independent farmers. (5) There was no permanent class of dependent wage-workers, at least in the earlier part of this period. The factory operatives constituted a group which may have been permanent in form, but which was changing in content. The

shifting factory personnel was composed of young people who remained in those positions for a short time only, and not until the immigrants took their places did conditions here approach those in England. (6) Finally, conditions of employment were never so bad in this country as in England, either with respect to child labor, women, hours, wages, insanitary tenements, or other matters.

But after all these modifications are made, it may be recognized that this period witnessed profound industrial changes. As a nation we were making a transition from a country-dwelling and mainly agricultural people to a city-dwelling and largely manufacturing nation, and our manufacturing technique was being transformed from hand tools to power-driven machinery. Speaking to a meeting of Litchfield, Connecticut, farmers in 1851, Horace Bushnell said: "This transition from mother-and-daughter power to water-and-steam power is a great one, greater by far than many have as yet begun to conceive—one that is to carry with it a complete revolution of domestic life and manners." Into a short space of seventy years—the lives of two generations—were compressed changes which in England were spread over a century or two. If not revolution it was certainly rapid progress. New methods and mechanisms were adopted almost simultaneously in agriculture and manufactures, in transportation and commerce, in banking and exchange. Population shifted rapidly from old settlements to new and from one occupation to another; new lands were brought under cultivation; capital was transferred suddenly from one channel to another; canals and railroads opened up new markets; manufactures responded to these stimuli, but with changing processes and locations; and always there was confusion and speculative excitement attending this occupation of a continent. Only extremely favorable circumstances carried the people through this period of rapid economic progress without disaster.

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CHAPTER XVIII

THE ECONOMICS OF SLAVERY

The development of the South.—While the country as a whole made marvelous progress during this period, the benefits were confined largely to the North and West. The great advances in manufactures, in agricultural improvements, and in commerce scarcely affected the South. Although the population was almost evenly divided between the North and the South in 1790, by 1860 two-thirds of the population and a still greater proportion of the wealth of the country were in the northern states. In 1860 the population of the North was 19,083,927 as against 12,315,374 in the South. Of the \$3,736,000,000 of wealth recorded by the census as having been produced in 1859, over \$2,818,000,000 or 75 per cent came from northern farms and factories. By far the greater part of the manufacturing and mining industries of the country were situated in the North. In fact, the South had lagged far behind in the industrial advance of the previous half century. A southern writer, Trenholm, made the following statement on this point: "The whirl and rush of this progress encompassed the South on every side. . . Yet alone in all the world she stood unmoved by it; in government, in society, in employment, in labor, the states of the South, in 1860, were substantially what they had been in 1810, when the abolition of the slave-trade had impressed upon their development the last modification of form of which it seemed susceptible." The reason for the industrial backwardness of this section was the existence there of slavery, and to a fuller discussion of this institution as a system of labor we must now turn.

History of slavery in the United States.—After the Revolution, slavery declined not only in the North, but in the South as well. Vermont abolished it in 1777, as did Massachusetts in 1780, and in the same year Pennsylvania pro-

vided for gradual emancipation. New Hampshire followed in 1783, and in the next year Rhode Island and Connecticut. By the Ordinance of 1787 Congress prohibited slavery in the Northwest Territory, and in 1799 New York declared that all children born thereafter of slaves in that state should be free, as did New Jersey in 1804. By the latter date all the states north of Delaware had in one way or another outlawed slavery. Even in the South, except in the pestilential rice swamps of South Carolina and Georgia, the economic disadvantages of slave labor were so apparent that many prominent southerners favored its early abolition. Jefferson was opposed to it and feelingly remarked, "I tremble for my country when I reflect that God is just." Washington wrote in 1774, "Were it not then that I am principled against selling negroes, as you would do cattle at a market, I would not in twelve months hence be possessed of a single one as a slave"; and again in 1786 he said, "I never mean, unless some particular circumstance should compel me to it, to possess another slave by purchase, it being among my first wishes to see some plan adopted by which slavery in this country may be abolished by law."

A decade later Delaware, Maryland, Virginia, North Carolina, and South Carolina had all forbidden the importation of slaves, leaving only Georgia open to the slave trade. Indeed, so far had the movement toward the extinction of slavery proceeded under the operation of the law of diminishing fertility on the exhausted lands that Tench Coxe was able to write in 1794: "The separate American states (with one small exception) have abolished the slave-trade, and they have in some instances abolished Negro slavery; in others they have adopted efficacious measures for its certain but gradual abolition. The importation of slaves is discontinued, and can never be renewed so as to interrupt the peace of Africa, or endanger the tranquillity of the United States." Even from Georgia came the statement by a representative in the fifth Congress: "Not a man in Georgia but wishes there were no slaves; they are a curse to the country." The fall in the price of slaves was another indication of the unprofitableness of slave labor: in 1790 the best hands could be bought for two hundred dollars each. It seemed as if

the contingency might arise which was predicted by John Randolph of Roanoke, when, instead of the slave running away from his master, the master would run away from his slave. The following quotation from the journal of Philip Fithian, a Princeton student and tutor to a rich family in Virginia in 1774, gives an enlightened view of slave labor on a great plantation during this period :

"After supper I had a long conversation with Mrs. Carter concerning Negroes in Virginia, and find she esteems their value at no higher rate than I do. We both concluded (I am pretty certain that the conclusion is just) that if in Mr. Carter's, or in any Gentleman's estate, all the Negroes should be sold, and the money put to interest in safe hands, and let the land which these Negroes now work lie wholly uncultivated, the bare interest of the price of the Negroes would be a much greater yearly income than what is now received from their working the Lands, making no allowance at all for the risk of the Masters as to the crops, and Negroes."

Before these fair hopes of the abolition of slavery could be realized, an event occurred which created a revolution as profound and far-reaching in southern agriculture, as was worked by the new machinery in northern industry. This was the invention of the cotton gin in 1793. The introduction of sea island cotton in 1786 was an important event, but its production was limited to the sea coast, while upland cotton, whose profitable production was made possible by the cotton gin, could be grown almost anywhere in the South. The new power-driven machinery in the textile mills of Great Britain and later in New England, by cheapening the costs of manufacturing, opened up vast areas of demand, while the cotton gin for the first time permitted the marketing of raw cotton at a price low enough to meet the demand with a cheap material. The result was a rapid and enormous growth of cotton production, which disrupted the old southern economy based in part on the staples tobacco and rice and in part on a self-sufficient farm practice, and gave new life to the institution of slavery. The planters of the old régime had developed a patriarchal mode of life, with much of social charm and culture, and, except in the rice districts, had treated

their slaves with consideration. But now the opportunity of large wealth opened new prospects for every one who could avail himself of it, and made slavery a commercial rather than a feudal institution.

When the cotton gin made it possible to grow the short-fibered variety at a profit, the white yeomen farmers, who had been thrust out of the rich tobacco lowlands by the planter class, and had lived a backwoods life in the upland pine barrens, seized eagerly upon the growing of cotton as a means of escape from their poverty. The Piedmont region, from Maryland to eastern Georgia, was occupied by a large though scattered population of farmers who were as well suited to raising cotton as they were to growing grain and livestock. The invention of the cotton gin and the spread of cotton culture at first benefited this group primarily, and they made large profits from the sale of their cotton at high prices. But these men would not work in the cotton fields for wages, but only as independent farmers.

So long as the production of cotton was carried on by these yeomen farmers, it would be on a small scale. If the production of cotton was to be quickly expanded to meet the increasing demand, laborers must somehow be obtained for the work, and if large scale capitalistic methods were to be used in growing cotton, laborers must be had in large numbers. For this, slaves seemed the only recourse. Many of the yeomen farmers used their suddenly acquired wealth to purchase slaves and themselves became planters. The large slaveholders, too, eagerly seized the opportunity afforded by a new crop to employ their slaves in its production, for the former staple southern crops, rice and indigo, were declining in importance, and the tobacco lands had long been showing signs of exhaustion. The huge profits to be made in growing cotton unleashed forces of competition and exploitation "akin in spirit," as Beard remarks,¹ "to the dynamic and acquisitive capitalism of the industrial world."

Under the impetus of these forces cotton culture, and with it slavery, gradually spread westward until in 1860 it occupied the whole of the lower South as far as Texas. At the time of Whitney's invention cotton was raised only in

¹ *Rise of American Civilization*, 1, 654.

Georgia and South Carolina; thence it spread to North Carolina and Virginia, but until 1810 it was confined to the Atlantic seaboard. The next year a beginning was made in Tennessee and Louisiana, and during the next decade Alabama and Mississippi began to attract attention; for the following ten years a perfect stream of settlers poured into this fertile district. By 1821 the four last mentioned states raised one-third of the cotton grown in the United States, by 1831 nearly one-half, and by 1834 over two-thirds. The production of sugar was also increasing in Louisiana at this time, and was proving very profitable. The profits from cotton-growing in a new country were extraordinarily large, and in 1835 were reported to Harriet Martineau, in Alabama, as about 35 per cent per annum.

Hand in hand with this extension of cotton territory and of production went the growth in the number of slaves. The total number of slaves grew from 677,897 in 1790 to 3,953,760 in 1860. Furnishing as it did the labor for this profitable crop, slavery was now firmly established on an economic foundation; so far as the South was concerned the whole gain from the expansion of cotton culture went to build up and extend the system of slavery. Slavery became increasingly localized in the South; in 1820 only 19,108 out of 1,538,038 slaves in the United States lived north of Mason and Dixon's line, and in 1840 only 1129 out of 2,487,355 were to be found there.

There followed a most interesting struggle between the white yeomen farmers and the large planters with slave labor for the possession of the best cotton lands. It was not merely a struggle between free and slave labor, but rather one between small unorganized undertakings and large capitalistic enterprises. In this contest the economies of organized large scale production were more than sufficient to offset the inefficiency of slave labor, and the richest cotton lands came into the possession of the large plantation owners. The independent white farmers, tempted by the high prices at which they could sell their land, parted with their holdings and moved to the cheaper land on the frontier, or were thrust on to the poorer land nearby, or into the mountains. Here they grew some cotton, raised livestock, or engaged in mixed

farming. This process was described by Olmsted,² quoting from a southern newspaper, as follows:

"The cotton-growing portion of the valley of the Mississippi, the very garden of the Union, is year by year being wrested from the hands of the small farmer and delivered over to the great capitalists. . . All the great cotton lands were first opened up by industrious settlers, with small means and much energy. No sooner is their clearing made, and their homestead growing into comfort, than the great planter comes up from the East, with his black horde, settles down on the district, and absorbs and overruns everything. This is precisely the process which is going on, day by day, over the greater portion of Louisiana and Mississippi. The small farmers, that is to say, the mass of the population, are fast disappearing. The rich bottom lands of that glorious valley are being concentrated in the hands of large planters, with from one hundred to one thousand Negroes."

Advantages and disadvantages of slavery.—Dr. Nieboer³ has pointed out that in the history of the world "labor has never been employed on any considerable scale with constancy and combination, except by one or other of two means: either by hiring or by slavery of some kind." In other words, control over the labor of other persons can be obtained only by persuasion or by coercion. They can be induced to work by wages or they can be compelled to work by force. But in the South there was no available supply of white wage-laborers, since the yeomen farmers preferred their independence and immigrants avoided the South because of the existence there of slavery. The cotton planter therefore assured himself a permanent and controllable labor supply by buying it. And in so doing he argued that he served himself better than if he had hired wage-workers. He could determine in advance the size and character of his labor force. He had nothing to fear from strikes or labor troubles, though he had to guard against accidents, sickness, and shirking.

The peculiar institutions of the South—slavery and the

² *A Journey in the Back Country* (New York, 1860), 329.

³ H. J. Nieboer, *Slavery as an Industrial System* (The Hague, 1910), 307.

plantation system—may therefore be regarded as adaptations to conditions of time and place and circumstance. Originally, it may be argued, they possessed a certain fitness, but like feudalism they became rigid and anachronistic and had to yield to other institutions—free labor and political democracy—with which they came into conflict.

The slave was used as an instrument of production, and was regarded in much the same light as an animate machine. But the analogy broke down, because the slave had a mind and a will of his own, which affected the output. There was a fundamental difference between free labor and slave labor. In the case of the free farmer the full returns of his efforts belonged to the worker; the motive to exertion was self-interest instead of compulsion or fear, and consequently diligence and application were exercised. Slavery, on the other hand, was essentially a system of forced labor; and since the worker did not reap the reward of his toil he was not interested in the results. The slave had no motive to improve methods of production, to increase the output, to preserve the fertility of the soil, or to economize in the use of equipment. If he showed superior capacity he would only increase his labors without increasing his reward. "His ambition is the reverse of that of the free man; he seeks to descend in the scale of industry, rather than to ascend."

"The economical defects of slave labor," wrote Cairnes,⁴ "may be summed up under the three following heads: it is given reluctantly; it is unskilful; it is wanting in versatility." Since his labor was forced, the slave gave it reluctantly; he put as little strength and earnestness into his work as was compatible with safety from flogging. Olmsted concluded that slaves were hardly one-half as efficient as free laborers, though such a sweeping generalization needs to be qualified for many individual Negroes, for the kind of work performed, and according to the time and place. This disinclination to work, and the frequent shamming it led to, necessitated the use of highly paid overseers, which tended to offset the cheapness of the slave labor. Another characteristic was its ignorance, clumsiness, and wastefulness, though under the

⁴ J. E. Cairnes, *The Slave Power* (London, 1863), 43.

systematic direction of whites these disadvantages were moderated. In general only the heaviest and simplest tools could be used; improved implements and machinery and fine livestock could not be entrusted to the slaves. The inefficiency of slave labor as compared with the responsible and intelligent free labor of the North was thus greatly augmented. As it was impossible to introduce improvements in methods of agriculture or complicated labor-saving devices into the South, this section of the country tended continually to fall further behind the rest of the nation in the relative production of wealth. Finally, the lack of interest, of elasticity, and of versatility of slave labor confined the southern states to a few staple agricultural crops, and entirely prevented any diversification of industry or the rise of manufactures. The difficulty of teaching a slave anything was so great that when he had once been trained to a particular occupation there was every inducement to confine him to that for life. Under slavery therefore there could be no variety of production. That the Negro, at best only a generation or two removed from African barbarism, should have remained below the industrial standard of the white man, with his centuries of discipline, was natural. When to inherited incapacity were added the defects of the system of slavery, one cannot feel surprised at the inferiority of slave labor.

Another defect of slavery was to be found in the composition of the labor force. Under a system of free labor the employer could exercise a certain choice and could reject or discharge those who fell short of his standard. The slave owner, on the other hand, had to make shift with such material as the slave traders brought his way, or as was born on his plantation. His problem was to get out of such a general run of slaves the maximum of energy and skill. But the average planter possessed neither the ability nor the resolution necessary to attain the best results.

But the disadvantages of slavery were not confined to the character of the labor only. A defect of another kind was the difficulty a young man of small means experienced in getting a start in a slave district. Land was cheap, but to purchase the necessary labor force necessitated a large in-

vestment of capital — more even than was required for the land and buildings and livestock. It was difficult for any one to become a planter unless he had inherited slaves or had wealth. There was therefore a tendency to monopoly in the hands of the large planters. A farmer in the Northwest could expand his operations with very much less capital. Even in the case of wealthy planters the necessity of locking up a large amount of capital in slaves probably held the labor force down to a point below its most economical expansion.

The most serious economic weakness of the system of slavery was to be found in the retardation or prevention of the accumulation of capital. By capital is meant instruments of production, the result of past labor, which are applied to future production, such as machines, tools, agricultural implements, factories, railroads, banks, stores, merchandise, and a hundred other items. In its concrete forms capital is the chief means of economic progress. But the South was always starved for capital for industrial and commercial purposes and was compelled to borrow from the North. Northern capital carried on southern commerce, built southern railroads, and financed southern banks. Why did this scarcity of free capital exist in the South in spite of the wealth produced there each year?

The only persons who could save large amounts of capital were the planters, and they used their incomes in other ways. In the first place, they adopted a luxurious and expensive style of living, spending lavishly at home, making visits to fashionable resorts in the North or in Europe, sending their sons to college, and in other ways consuming their wealth instead of saving it. In the second place, what they did save was invested in land and slaves. The whole gain of the expansion of cotton culture went to build up and extend the system of slavery. The circle of investment, as described by a southern journal, was "making more cotton to buy more Negroes to raise more cotton to buy more Negroes." The capital of the South was absorbed in land and slaves, and manufactures, commercial enterprises, adequate transportation systems, and other appurtenances of an advanced civilization were therefore lacking. The disastrous

results of such a one-sided development were vividly portrayed by a southern writer in 1853 as follows :⁵

"If one unacquainted with the present condition of the Southwest, were told that the cotton-growing district alone had sold the crop for fifty millions of dollars per annum for the last twenty years, he would naturally conclude that this must be the richest community in the world. He might well imagine that the planters all dwell in palaces, upon estates improved by every device of art, and that their most common utensils were made of the precious metals ; that canals, turnpikes, railways, and every other improvement designed either for use or for ornament, abounded in every part of the land ; and that the want of money had never been felt or heard of in its limits. He would conclude that the most splendid edifices dedicated to the purpose of religion and learning were everywhere to be found, and that all the liberal arts had here found their reward and a home. But what would be his surprise when told, that so far from dwelling in palaces, many of these planters dwell in habitations of the most primitive construction, and these so inartificially built as to be incapable of protecting the inmates from the winds and rains of heaven ; that instead of any artistical improvement, this rude dwelling was surrounded by cotton fields or probably by fields exhausted, washed into gullies and abandoned ; that instead of canals, the navigable streams remain unimproved, to the great detriment of transportation ; that the common roads of the country were scarcely passable ; that the edifices erected for the accommodation of learning and religion were frequently built of logs, and covered with boards ; and that the fine arts were but little encouraged or cared for. Upon receiving this information, he would imagine that this was surely the country of misers — that they had been hoarding up all the money of the world, to the great detriment of the balance of mankind. But his surprise would be greatly increased when informed that, instead of being misers and hoarders of money, these people were generally scarce of it, and many of them embarrassed and bankrupt."

⁵ J. D. B. DeBow, *Industrial Resources of the Southern and Western States* (3 vols., New Orleans, 1853), II, 113.

The economic cost of slave labor.—That slavery involved an economic loss to the nation and also to the South as a whole is evident. Was it profitable to the slave-owner? The average plantation-owner believed that the chief economic advantage of slavery lay in the fact that he obtained the whole fruit of the slave's toil, in return for which he had to make only a small outlay for maintenance. How far the small running expenses offset the meager returns from slave labor was the economic problem involved in the system of slavery. Was it more remunerative to the slave-owning population than a system of free hired labor, quite irrespective of the rights or interests of the slaves?

The items involved in the yearly cost of a slave to his master were many, including interest on capital invested in him, cost of maintenance (food, clothing, and lodging), depreciation, taxation, and insurance against death, sickness and flight. Did these items amount to more or less than the wages of a free laborer? On this point may be quoted the testimony of a slaveholder from Kentucky about 1840, as reported by the English traveler, J. S. Buckingham :⁶

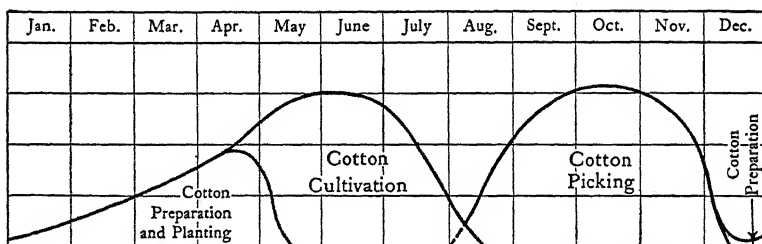
"He said he had not only made the calculation, but actually tried the experiment of comparing the labour of the free white man and the Negro slave ; and he found the latter always the dearer of the two. It took, for instance, 2000 dollars to purchase a good male slave. The interest on money in Kentucky being ten per cent, here was 200 dollars a year of actual cost ; but to insure his life it would require at least five per cent more, which would make 300 dollars a year. Add to this the necessary expenses of maintenance while healthy, and medical attendance while sick, with wages of white overseers to every gang of men to see that they do their duty, and other incidental charges, and he did not think that a slave could cost less, in interest, insurance, subsistence, and watching, than 500 dollars or £100 Sterling a year ; yet, after all, he would not do more than half the work of a white man, who could be hired at the same sum, without the outlay of any capital, or the incumbrance of maintenance while sick, and was, therefore, by far the cheaper labourer of the two."

The diet of the slaves was coarse but wholesome ; corn-

⁶ *The Slave States of America* (London, 1842), I, 401.

meal, with molasses, and generally bacon, were the staples. The custom of permitting each slave family to cultivate a piece of ground for its own use was very general ; vegetables and other produce could therefore be added to the otherwise monotonous dietary. A report to the Secretary of the Treasury from forty-six sugar planters in Louisiana gave the cost of feeding and clothing an able-bodied slave as thirty dollars a year. Probably twenty dollars went for food, which would be five and a half cents a day. The clothing was of the coarsest, and the cabins, while rude, were probably as good as the inmates could appreciate. Any comparison between slave labor and white free labor must be misleading, for many of the defects in the system were due to the fact that the slave was a Negro as well as a bondman. The real problem involved was that of the relative efficiency of slave and free Negro labor, the answer to which is the solution of the labor problem of the South today.

Reasons for the success of the plantation system.—There were certain adventitious circumstances, not inherent



SEASONAL DISTRIBUTION OF MAN LABOR ON COTTON
Five counties in central Alabama

in the plantation system itself, which helped make it successful in the United States. The first condition for the success of the slave plantation system was the possession of suitable crops, in the production of which slave labor could be profitably employed. Of all crops cotton combined most perfectly the conditions necessary to an economical use of slave labor. Cotton culture was very simple, requiring few tools and only routine work on the part of the worker. The planning, direction, and management

were carried on by the skilled plantation owners or their overseers. Furthermore, it gave employment for practically every month in the year, and to every member of the family, so that there was no unused labor. This is shown on the preceding graph. And, most important of all, it permitted the organization of labor on a large scale; a single slave could not cultivate more than two acres of tobacco or three of cotton (as compared with twenty or thirty acres in the case of corn or wheat), and they could therefore be more compactly massed and better watched and directed than in the case of the cereal crops. Such crops as rice, cotton, and sugar met the requirements of large scale production in a high degree; their cultivation firmly entrenched slavery and caused its rapid extension.

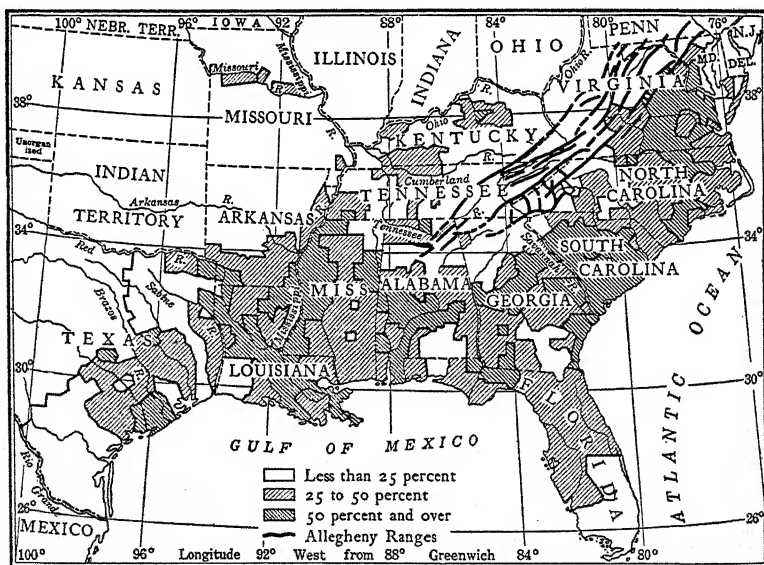
A second condition which made slavery possible and profitable was an abundance of new land. It was the cheapness and abundance of the land that caused the introduction of slaves into Virginia and the other colonies, and later led to its extension into the lower South. If land anywhere became scarce and dear, slavery tended to disappear. Intensive and scientific methods of farming were seldom possible under the indifferent and wasteful slave system. Consequently, the colonial method was persisted in, of cropping a tract of land until it was exhausted and then moving on to a fresh piece. Such a system of "mining the soil" required practically unlimited quantities of unoccupied and fertile lands suitable for cotton culture. In this need for new lands for cotton growing is to be found an explanation of the rapid westward movement of the slave plantation system, of the unceasing efforts on the part of the slave interests to widen our boundaries by the inclusion of Texas, Mexico, and the lands to the Southwest, and of the extraordinary Ostend Manifesto of 1854 designed to wrest Cuba from Spain. This one-crop economy involved at once an enormous waste of natural resources and a rapid exhaustion of the soil. In every southern state there were enormous tracts of exhausted and abandoned cotton lands; in fact, the uncultivated land far exceeded the cultivated. The following table⁷ shows the

⁷ E. C. Seaman, *Essays on the Progress of Nations* (2d Series, N. Y.), II, 572.

456 ECONOMIC HISTORY OF THE AMERICAN PEOPLE
differences in this respect among the different parts of the
country :

LAND IN FREE AND SLAVE STATES, 1860			
	<i>Free States and Territories</i>	<i>Border States (Ill., Md., Ky., and Mo.)</i>	<i>Slave States</i>
Improved land, acres.....	88,730,678	17,547,885	56,832,157
Unimproved land, acres.....	72,983,311	27,474,315	143,644,192
Total quantity, acres.....	161,713,989	45,022,200	200,476,349
Cash value.....	\$4,091,818,132	\$702,518,382	\$1,850,708,493
Average value per acre.....	\$25.30	\$15.60	\$9.25

This does not mean that slavery was responsible for the one-crop system, but rather that in a world-wide scheme of specialization the South found its greatest comparative advantage in raising cotton. Slavery simply fitted into this system. This is well shown by the following map.



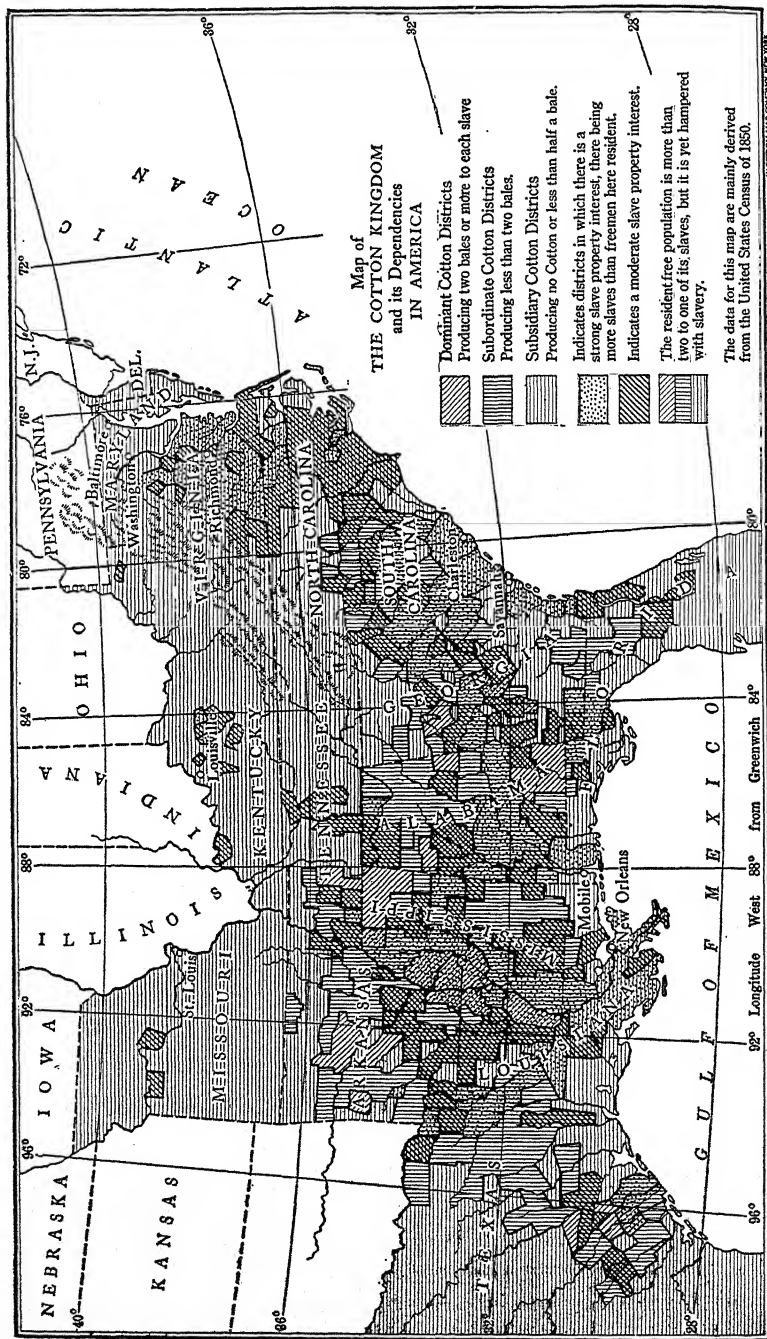
[From Beard and Beard's *History of the United States*.
By permission of The Macmillan Company, publishers.]

DISTRIBUTION OF SLAVES IN THE SOUTHERN STATES

But such a system carried in itself the seeds of its own destruction. It was recognized that slavery was profitable only in new and undeveloped countries, and that as a country filled up and the land was all brought under cultivation, slavery would become less and less profitable until it might eventually entail positive loss. An industry based on slave labor whose profits were obtained by mining and selling the fertility of the soil could not endure after the supply of available land was all in use and intensive culture became necessary. The exhaustion of the soil had once nearly destroyed tobacco-growing in Virginia and Maryland, and by 1860 had begun to affect the older cotton regions.

A day of reckoning was inescapable; when the need of expensive fertilizers, of scientific crop rotation, and of more intensive cultivation became imperative, the profitability of slavery would be called in question. The advantage due to abundance of cheap land was manifestly only a temporary one. Benton was fond of saying that slavery in the United States would take care of itself and be abolished as soon as it became decidedly unprofitable, and Von Holst collected considerable evidence to show that slavery was already becoming unprofitable in the South before the Civil War put an end to it. Webster in favoring the Compromise of 1850 had pointed out that the spread of slavery was limited by nature, since the crops for which it was suited could be grown only within a well-defined area. St. George Tucker concluded that slavery would tend to become economically moribund when the density of population reached 66 per square mile. By 1860 the limits of the American cotton kingdom had been reached, and beyond those limits slavery as an industrial system could not spread. The extent of the cotton area is shown in the map on page 458.

The third prerequisite to the profitability of cotton growing by slave labor was the possibility of concentration on this staple crop through the purchase of supplies of food and livestock from the West and of manufactured goods from the East or from abroad. In other words, the territorial division of labor already described made possible the specialization of the labor of slaves upon tasks in which they were most efficient and stimulated their withdrawal



from less profitable lines. From the growing states of the Northwest corn, flour, bacon, hams, lard, livestock, hay, with a hundred other articles of minor importance, were floated down the Ohio and Mississippi rivers and found a ready market in the southern states. An estimate of 1845, given by Ingle, was that in twenty years southern planters had spent \$900,000,000 in neighboring states for mules, horses, implements, and clothing, an expenditure made necessary because they were devoting their labor and land to the production of staple crops. From the East came the equally large amounts of manufactured commodities.

It thus became possible for the planters of the lower South to direct the larger part of their labor force and capital into the one channel, the production of cotton. De Bow estimated in 1850 that of the 3,177,000 slaves then in the South, 1,800,000 were engaged in cotton culture. In 1820 the production of cotton had equaled 109 pounds to each slave; by 1853 it was 395 pounds per slave. These figures do not indicate the increasing efficiency of slave labor; they show rather its concentration upon one staple crop. In the decade 1850-60 the per capita production in the southern states of every important cereal product, of cattle and swine, and even of the products peculiar to the slave states, as flax, rice, and sugar, fell off absolutely, while in the production of tobacco the increase was relatively less than in the northern states. In the case of cotton alone was there a relative as well as an absolute gain; it more than trebled in the twenty year period, 1840-60, increasing from 1,500,000 to 5,300,000 bales. These facts show a great concentration of slave labor upon cotton-growing.

It must not be concluded, however, that all the land and labor was devoted to commercial farming in the form of cotton growing. Wide areas, where it was impracticable to raise commercial staples, were farmed on the self-sufficing principle. Some of the farmers, who were favorably located, furnished supplies to the commercial planters. In those districts, however, which were less well situated by reason of geographic isolation, poor soil, or rough topography, the farmer tended to be almost as wholly self-sufficing as his colonial forbears had been. Such a farmer raised

his own corn and hogs and carried on household industries during all of this period.

A final condition upon which depended the success of the slave plantation system was an adequate supply of slave labor. The increased demand for slaves to be used as hands in the cotton-fields led at first to an extension of the slave-trade and to fresh importations from Africa. Although the separate states had forbidden the traffic, the profits were so enormous as to encourage the growth of a vast illicit business. Finally, in December, 1803, South Carolina, influenced no doubt by the great gains to be secured, repealed all prohibitory laws and threw open her ports to the slave-trade. Charleston became the most important slave-mart in the United States, and grew rapidly in wealth and importance; in size it was the fourth largest city and seemed destined for a brilliant future. New England traders carried on a large share of the traffic, and slave-ships were fitted out in Boston and New York; the voyages were usually made under the flag of a foreign nation. From 1804 to 1807 inclusive, two hundred and two cargoes of Negro slaves were taken into Charleston; of these, 8488 Negroes were sold for account of persons living in Rhode Island, Massachusetts, and Connecticut. In the latter year the constitutional restriction upon federal interference expired, and on March 2, 1807, Congress by law prohibited the importation of slaves. The act was disregarded, however, as the punishment was insufficient—illegally imported slaves if captured were sold for the benefit of the state in which they were being bought—and a considerable illicit trade continued. In 1820 the traffic was made piracy, with the death penalty.

The restriction of the slave-trade, together with the growing demand for slave-labor, forced up the price of slaves, which by 1815 was two hundred and fifty dollars a head. This demand was met by the sale of the surplus slaves from the exhausted tobacco plantations of the border states; they were sent to the cotton regions by the tens of thousands. The owners seized the opportunity to sell their slaves to the cotton planters, or moved with them to the growing

cotton regions. A vigorous internal slave trade developed between the older states of Maryland, Virginia, and the Carolinas on the one hand and the cotton-growing states on the other. Olmsted calculated that the importation of slaves into seven of the cotton states in the lower South during the decade 1850-60 averaged about 25,000 annually; Collins estimated the transfer of slaves from selling states to buying states at about 20,000 a year for the four decades, 1820-1860. This aspect of slavery undoubtedly created the most suffering. But the growing need for cotton and the movement of population into the rich bottom lands of the Mississippi and its tributaries led to a demand for labor which could not be met even by this internal traffic or by the natural increase of the slaves on the cotton plantations. An illicit slave trade accordingly sprang up between Africa and the West Indies or Texas, whence slaves were smuggled into the southern states. The increased price of slaves, owing to the risk attached to the business and to the demand in the cotton fields, proved an irresistible attraction to American capital and much was invested in the business. Probably 50,000 slaves a year were imported.

Advantages of the plantation system.—In spite of the defects of slave labor the plantation system proved itself more profitable than the small farm, and began to supplant the latter. The reasons for this were, in part, the favorable conditions already mentioned, though these were for the most part temporary and would in time have disappeared. But the plantation system was superior to the small farm in another respect, which has not yet been mentioned. This was management. Cotton could be grown most cheaply on a large scale and here the plantation owner had the advantage, for he could direct, organize, combine, and move labor as he saw fit for the attainment of his ends. In the growing of cotton and even more of sugar, he could utilize to the utmost the advantages of specialized and massed labor and could apply the principles of organization and combination in the highest degree. On the better managed plantations the work was carefully planned and practically executed. Provision was made for a certain division of labor

and the slaves were humanely treated.⁸ Instructions drawn up by owners prescribing the management of the plantation, show enlightened views and the application of scientific methods.⁹ By 1822 the large plantation system with slave labor was taking the lead and by 1840 it had largely displaced the small planter who was working with free labor. The character of slavery had meantime changed from the patriarchal serfdom of colonial days to a well-organized industrial system upon which was founded the economy of the South.

The organization of work on the plantation varied from district to district and even within a region. The task system was prevalent on most of the large plantations, whether of rice or cotton, in eastern Georgia and South Carolina; according to this each hand had a definite amount of work assigned to him according to his ability, and when this was done he was through for the day. The gang system was used on the large cotton plantations of Alabama and Mississippi and the sugar plantations of Louisiana; in this a capable slave acted as driver, urging the working slaves to their tasks and holding them to a good pace by word and whip. The smaller and less enlightened owners had no system, but simply set the slaves to work and got as much out of them as they could. On the large plantations the management was generally left to an overseer, which was unfortunate, for good overseers were scarce. Since his success was measured by his ability to produce a large crop of which he was frequently given a share instead of salary, the overseer drove the slaves harder and exploited the land worse than the owner. Absenteeism of the owner was not frequent, since the planter's life was regarded as an ideal one. But the planters felt a contempt for labor, were often unenterprising and lazy, and did not develop their estates. The agriculture of the South reflected the incapacity of these men.

As an entrepreneur class the "slavocracy" failed signally—in the West Indies, in Spanish America, and finally in

⁸ For a good illustration see Susan D. Smedes, *Memorials of a Southern Planter*, (Baltimore, 1887), 47-69, quoted in Callender, *Selections*, 641-646.

⁹ See examples in U. B. Phillips, *Plantation and Frontier* (Cleveland, 1910), I, 112-115, quoted in Bogart and Thompson, *Readings*, 582-590.

the southern United States. The explanation seems to lie in the fact that there was no economic ladder, no real elimination of the unfit, and not sufficient pressure to improve methods.

The absence of rotation or of the diversification of crops, and of the use of fertilizers to prevent the exhaustion of the soil, of improved livestock, agricultural machinery, buildings, and fences ; in short, the lack of a scientific agriculture was a frequent matter of complaint in southern journals and conventions. Southern writers before the Civil War insisted that the prosperity of the South was bound up in the "peculiar institution," and that to destroy slavery was to ruin southern industry. As a matter of fact, nearly nine-tenths of the cotton was raised by slave labor. By 1850 it may fairly be admitted that the question of free versus slave labor was no longer a debatable one. The existence of slavery and the plantation system had driven out the supply of white yeomen labor which might have done the work of raising cotton, and the plantation owners were unable to make use of any other than slave labor. When the gin was invented cotton was generally raised by white farmers. As its culture spread out to the richer lands of Alabama and Mississippi the large plantation with slave labor competed successfully with the small farm and finally supplanted it. If there had been no slaves, white labor would have developed the cotton industry throughout the South, though of course more slowly.

While the introduction of slave labor into the United States had, as we have seen, no connection with the production of cotton, it is true that the development of cotton culture at this time gave new life to a decaying institution and furnished it with an economic reason for existence during the next half-century. How dependent the extension of slavery was upon the growth of cotton can easily be seen by noting the concentration of slaves in the cotton-growing states. In 1840 over two-thirds of the slave population were in the ten cotton-growing states, while in 1860 nearly three-fourths were to be found there.

Effect on the production of cotton.—The result of the system of slavery was, first, that the production of cotton,

great as it was, did not begin to equal the capabilities of the South. Only a small part of the land was cultivated; in 1850 DeBow calculated that the entire cotton crop of that year was raised on only 5,000,000 acres. And, secondly, since it was grown now largely by slave labor, its production increased only with the increase of the slave population. As this form of labor could be enlarged only by natural increase, except for small supplies smuggled into the United States by slave traders, it grew more slowly than free labor, which could be augmented immediately and rapidly by immigration. The lack of an elastic labor supply prevented the expansion of cotton-growing and stifled the progress of the South even in that branch of production in which it was supposed to excel and to which it had sacrificed all others. There was no equilibrium between supply and demand; since his capital was all invested in slaves and cotton lands, the planter found it practically impossible to decrease his production in times of over-supply and low prices, and equally difficult to increase it rapidly when prices rose. Cotton-growing was thus extremely uncertain and speculative.

From the point of view of markets there was a disadvantage in a slave society. Since the slaves lived on a low subsistence minimum and were not paid wages they did not constitute a good market. And since the slave-owners were a relatively small group they could not absorb large purchases. There was therefore little incentive to establish manufacturing or other industries in the South. The commercial staples were compelled to seek foreign or northern outlets, and those farmers not producing staples were thrust back into a primitive self-sufficing economy.

The production of cotton probably lagged behind the economic need during the decade and a half before the war, as is shown by the rising price of that commodity from less than six cents a pound in 1845 to nearly fourteen cents in 1857, and by the great increase in the price of slaves. In 1798, just after slave labor began to be used in cotton-growing, \$200 was a good price for a field hand; in 1822 the average price, as they ran, was about \$300; in 1840 the average value of all slaves dependent on cotton culture was

estimated by DeBow at \$500; twenty years later Olmsted found that good field hands were worth \$1400 on the average, while as high as \$2000 was sometimes paid. It was calculated roughly that every additional cent per pound in the price of cotton added a hundred dollars to the value of a slave.

Were the slaves really worth these prices? The addition to a commercial staple grown under a prescribed technique, the relative scarcity of slaves, and the competition of the planters ran the prices up. It is probable, however, that in the absence of any adequate accounting systems the profitableness of investing such sums in labor must have been only a very rough guess.

The increasing cost of the slaves made it necessary to confine their labor to the most profitable use, and that meant the concentration of slave labor upon cotton-growing. It also led some of the more extreme advocates of slavery to favor the proposal to reopen the slave trade.

Social effects of slavery.—The effects of slavery obviously did not end with the economic losses involved; quite as insidious and harmful were the social results. "The essential evil of slavery," wrote J. G. Brooks, "was that the Negro as slave gave shape and direction to *the whole industrial life* and, therefore, largely to the political life."¹⁰ Southern society was strongly stratified, being divided into three broad groups, the slave-owners, the non-slave-owning whites, and the slaves. The ownership of the slaves was concentrated in a very few hands, less than 5 per cent of a population of 8,000,000 whites in the southern states owning the 3,950,000 slaves in the United States in 1860. A distinction should be made, however, between the large planters and the small owners of a few slaves. The former group was more powerful and influenced southern politics and society out of all proportion to their numerical strength. Out of the total number of 347,525 slave-holders in 1850 just half (173,200) owned more than five slaves, while only about one-quarter (92,000) owned more than ten each. The owners of a few slaves were in a different class from the rich planters; they frequently worked side by side with

¹⁰ *As Others See Us* (New York, 1908), 296.

their slaves in the fields and did not insist vigorously on either racial or social distinctions.¹¹ The slave-owners were thus a very heterogeneous class.

The non-slave-owning whites fell into three groups. The first of these consisted of the professional classes, merchants, and even clergymen, who, while not holding slaves themselves, were identified economically and socially with the planter class and sympathized with them in their attitude toward slavery. The second group was made up of yeomen farmers who owned and cultivated their own farms. Forced off the best land by the plantation system, they retreated to the less fertile soil or to the mountainous regions. Bitterly hostile to slavery, if Helper can be taken as a fair type, they formed a large and distinct element in southern society. It must not be thought that slavery occupied the whole of the land south of Mason and Dixon's line. There were vast stretches of territory in which slavery either did not exist at all or only to a limited extent. Slavery was profitable only where it could be used to grow the staple crops of cotton, sugar, tobacco, and rice, and was not able to entrench itself except where one or more of these crops could be profitably grown.

"A glance at the map," wrote Professor Shaler,¹² "will show that the Appalachian system of mountains widens as we go southward from Pennsylvania, until it occupies nearly one-fifth of the Southern States, extending southward so as to include half of Virginia and North Carolina, a considerable part of western South Carolina, much of Georgia, Tennessee, and Kentucky, and a part of Alabama. In this section the character of the soil and form of the surface, and the nature of the climate, make the land unsuited for the extended culture of either tobacco or cotton. The result was that slavery never firmly established itself as an economic institution in any part of this vast territory. Here and there in the more fertile valleys a few slaves were employed; but there were counties in this area where a slave was never held." The yeomen farmers in this region

¹¹ Cf. Callender, *Selections*, 783. In 1860 it was estimated that there were 384,753 slave-holders.

¹² N. S. Shaler, *Nature and Man in America* (New York, 1910), 208.

were poorer than the farmers of the North and West, but they were of the same type. On their hill farms they raised corn and hogs and carried on a self-sustaining type of agriculture. Shut out from the best land and cut off from markets for their produce by lack of adequate transportation facilities, they were for the most part uneducated, ignorant, and undeveloped, and condemned to a backwoods existence. Yet they showed that they had good stuff in them by four years' service as the rank and file of the Confederate army.

The third group of non-slave-owning whites was the so-called "poor whites," small in numbers and degenerate in type. They lived amid the large plantations, but found no economic place in such an environment. Looked down upon by both planters and slaves, they eked out miserable existences by hunting and fishing, and by acting as receivers of goods stolen from the plantations by the slaves to whom they purveyed liquor. The worst effects of slavery were felt by the yeomen farmers and the poor whites, for they had to compete with the cheap labor of slaves. Quite aside from the question of whether the existence of slavery caused labor to be looked down upon, there is no doubt that the competition of unpaid slave labor lessened the opportunities of free white labor and cheapened the prices of goods which they produced. The effect of slavery was to make and keep the white workers poor.

At the bottom of the scale stood the Negroes, free and slaves. Of the former there were few because the Southerner disliked and feared the free Negro. His legal, economic, and social condition was miserable in the extreme; he was an outcast in a slave society. The slaves were differentiated into house servants, mechanics, artisans, etc., and field hands. The former were the pick of the Negroes with not infrequently a strain of white blood in their veins. Here was revealed a moral weakness of slavery. Not only were marriage relations among the slaves loose in the extreme, but they were rendered still more so by the breaking up of families through sale. Such a state of affairs, together with the possession of unlimited power on the part of masters and lax morals on the part of female slaves, reacted upon the relations between the whites and blacks.

According to the census of 1860, mulattoes numbered 518,360 or 12 per cent of the Negroes.

Of the treatment of slaves it is difficult to speak with accuracy. They undoubtedly suffered most on the large plantations where they were driven and herded in gangs under the direction of overseers. House servants and slaves owned in small numbers were usually treated with humanity and even consideration. The possession of unlimited power by irresponsible masters must often have led to the abuse of this power and to inhuman conduct, though this was restrained by neighborhood opinion, and by economic self-interest. Flogging necessarily accompanied the system of slave labor, but wanton cruelty in the use of the lash certainly did not rule. The treatment was probably severest in the lower South, where the numerical preponderance of the Negroes produced a feeling of insecurity among the whites, but the supervision was strictest in the border states, where there was greater danger of running away.

As the patriarchal or feudal attitude toward slavery gave way to the commercial view, slaves came to be regarded as merely a form of property; they were sold and transferred like other commodities. Regular slave markets were held where slave dealers auctioned off their human chattels. To the credit of the South be it said that the slave dealer was usually a social outcast. Every effort was made to keep the slave from rising, and while religious instruction was generally given, education was strictly prohibited by law. On the other hand, temperance was strictly enjoined and the slaves were forbidden to possess or drink liquor. Looking at it broadly, slavery may be regarded as a training school in which an undeveloped and primitive race was rapidly adjusted to a more advanced civilization and was drilled to unaccustomed habits of work. But the adjustment was imperfect and the unwillingness and incapacity of Negro slave labor lay like heavy weights upon southern industry and prevented any rapid advance.

Conclusion.—Slavery, on the eve of extinction by reason of the exhaustion of the tobacco lands, was given a new lease on life by the invention of the cotton gin. Although

cotton was first grown by white yeomen farmers the pressure to expand production rapidly led to the use of Negro slaves. The plantation system was organized to use slave labor on a large scale in growing cotton, sugar, and other southern staples, and showed itself efficient and profitable. Its success was based upon conditions which in their nature were temporary, and it is unlikely that the profits would have continued long after the cheap new land was exhausted. Abolition of slavery probably would have been brought about in time by the operation of purely economic forces, but before this process could work itself out the question was settled by war. The profits of cotton-growing by slave labor enriched a few, but the majority of the southern white population did not share in this wealth, and the tasks of the slaves were not lightened thereby. There was a strong concentration upon a few staple agricultural crops, and manufactures and mining were undeveloped. The southern states were rich in natural resources, deposits of coal and iron, timber and water power, but these remained almost absolutely unexploited prior to 1860. It was impossible to carry on these industries with slave labor, and so long as slavery existed, neither free labor nor capital could be attracted to them. The South therefore lagged behind the rest of the country in the production of wealth. Of the real and personal property in the country in 1857, \$10,957,000,000 was credited to the northern states as against \$5,202,000,000 to the South. Industrially and commercially this section remained stagnant, and not until war had abolished slavery was it ready for the splendid industrial advance upon which it afterwards entered.

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Part III—Industrialization

1860-1914

CHAPTER XIX

ECONOMIC CAUSES AND CONDUCT OF THE CIVIL WAR

Struggle over the extension of slavery.—Some of the features which have been mentioned in the previous chapters are illustrated in the long struggle which occurred over the extension of slavery. The first occasion upon which this subject presented itself was in connection with the Northwest Ordinance of 1787, by which slavery was forbidden in the Northwest Territory north of the Ohio River and east of the Mississippi. By the constitutional convention of the same year slavery was accepted as a normal institution, as is shown by the two compromises with regard to taxation and representation, according to which slaves were to be counted at three-fifths their actual number for each purpose. The continuance of slavery was implicitly sanctioned, for Congress was not given authority, under the delegated powers of the Constitution, to interfere with the institution, and fugitive slaves were to be delivered to their masters (Const., Art. IV, 2). Abolitionists later called the Constitution a slave-holders' document, and Garrison characterized it as "a covenant with death and an agreement with hell."

The Constitution provided that the African slave trade should be abolished after 1808. Before this date arrived the Louisiana purchase had added to the public domain an enormous tract of land suitable for the extension of slavery. After the invention of the cotton gin cotton-growing and slavery pushed hand in hand across the black belt of rich alluvial soil in Georgia, Alabama, and Mississippi.

In 1812 the slave state of Louisiana was admitted to the

Union, but the first real struggle between non-slave-holding white labor and the slave system came when the attempt was made to recognize Missouri as a slave state. Slave-holders had already settled in the Missouri Territory in considerable numbers and in 1818 they asked permission to organize as a state and to be admitted to the Union. The question whether Missouri should be admitted as a free or a slave state was hotly debated, but was finally settled in 1820 by the so-called Missouri Compromise. According to this Missouri was to be admitted as a slave state but the line of $36^{\circ} 30'$, which was the southern boundary of Missouri, was to be considered as the northern limit of slavery. This must have seemed a good bargain to the non-slave-holding whites, for it pushed the line very far south and left to slavery little territory which was not already considered as belonging to it. The planting interests were willing to make this concession for the sake of peace, for as yet cotton had not become the dominant southern interest. The balance of political power between slave and free states was maintained by admitting Maine the following year as a free state.

The attitude of the South toward the institution of slavery began to change as the cotton industry expanded. From 1808 to 1830 many Southerners were willing to abolish the slave system, if it could be done safely and without loss. But after this date the great profits from cotton-growing drove all thoughts of emancipation from the minds of the planters, while the equally profitable sale of their surplus slaves disinclined the border states to such action.

Momentous changes were taking place also in the North. The westward movement gained new impetus with the advent of steam and the improvement of transportation facilities. After 1820 land could be bought of the federal government in tracts of eighty acres at \$1.25 an acre instead of tracts of one hundred and sixty acres at \$2.00 an acre. As the Northwest and the Southwest pushed out into the new lands side by side, they at first developed an economic partnership through specialization and exchange of products. But the need for more land on the part of the waste-

ful cotton and slave régime and the demand that it be opened to slavery brought the struggle to a head once more. This time it raged about the Wilmot Proviso.

In 1836 Texas had gained its independence from Mexico, largely through the activities of American ranchers and settlers, and it next applied for annexation to the United States and for admittance as a state into the American Union. This movement was approved by the slavery interests since Texas was adapted to cotton culture and was indeed already being settled by cotton planters with their slaves. In 1845 Texas was annexed, and the following year war was entered on with Mexico. While a bill was before Congress to appropriate money for carrying on the war, David Wilmot, an anti-slavery Democrat from Pennsylvania, introduced in the House of Representatives a resolution declaring that slavery should not exist in any territory which might be acquired. The resolution was voted down, but the question thus raised was not so easily settled.

The discovery of gold in California in 1848 and the request of the people in that territory to be admitted as a free state precipitated the issue. In the same year a convention of Free Soilers in Buffalo resolved without equivocation: "that we accept the issue which the slave power has forced upon us; and to their demand for more slave states and more slave territory our calm but final answer is: No more slave states and no more slave territory. Let the soil of our extensive domain be kept free for the hardy pioneers of our land and the oppressed and banished of other lands." On the other hand, the South was no less determined. "In the presence of the living God," exclaimed Robert Toombs, Senator from Georgia, "if by your legislation you seek to drive us from the territories of California and New Mexico . . . I am for disunion."

For over a year a battle royal was waged in Congress, led by Calhoun, Clay, and Webster, and engaged in by a host of lesser politicians. Calhoun demanded a cessation of all anti-slavery agitation, the return of fugitive slaves, and more representation for the South in Congress. The anti-slavery speakers, led by Seward, hotly rejected these terms, and the breach threatened to widen into disunion,

when Clay came forward with a compromise in which he was ably supported by Webster in his famous speech of March 7, 1850. A series of measures was passed which, taken together, constituted the Compromise of 1850. The territories of Utah and New Mexico were organized with the provision that they would be admitted as states with or without slavery as their constitutions might provide. To offset this concession to the slave interests California was admitted as a free state. The slave trade was abolished in the District of Columbia, but this was counterbalanced by the enactment of a new stringent fugitive slave law.

The events of the next few years were apparently determined more largely by political considerations than they were by economic events. In the election of 1852 the Democrats won a sweeping victory over the Whigs and were firmly entrenched in power. The slave interests accordingly proceeded to solidify their forces and enlarge their field of activities. Their first step was to extend the area open to slavery.

The Kansas-Nebraska Act, founded upon the principle of squatter sovereignty, or home rule, was passed under the leadership of Stephen A. Douglas, Democratic Senator from Illinois, in 1854. This repealed the Missouri Compromise and threw open to slavery the vast area which had been closed to it by the earlier agreement, and which comprised what are today the states of Kansas, Nebraska, North and South Dakota, Montana, and parts of Colorado and Wyoming. At once a rush of slavery advocates took place from Missouri into Kansas, while equally determined bands of settlers moved in from the eastern States resolved to keep the soil of "bleeding Kansas" free.

This legislative gift to the slave interests was soon followed by an unexpected gratuity from the Supreme Court. In the Dred Scott decision in 1857 the court declared that the Missouri Compromise was contrary to the Constitution and that Congress had no right to prohibit slavery in any territory of the United States. Two years later the Supreme Court upheld the fugitive slave law and all the drastic provisions for enforcement. The answer of the

radical abolitionists was John Brown's raid, and that of the people of the North generally was the formation of the Republican Party and the election of Abraham Lincoln as President. The last step in the "irrepressible conflict," as William H. Seward called it, was civil war.

The problem of abolition. (The North was never wholly anti-slavery nor the South wholly pro-slavery, and they were certainly not so at the beginning of this period. The attitude of Washington, Jefferson, and other eminent Southerners toward the institution of slavery has already been noted.¹ Even later in the South there resided many persons who declared that slavery was undesirable and who would have been glad to see it abolished. As late as 1835 Harriet Martineau stated that in all her conversations with planters she found only one who defended the system without reservations.)

The early anti-slavery movement was directed against the extension of the institution and generally favored gradual emancipation in some way, usually in connection with some form of deportation and colonization. "The American Society for the Colonization of Free People of Color of the United States," formed in 1816, planted a colony, called Liberia, on the west coast of Africa. By 1830 the society had been able to transfer only 1162 persons, at a cost of over \$100,000. The anti-slavery movement seemed to have spent its force, and the northern adherents of this movement disclaimed any intention of interfering with slavery in the southern states; they simply wished to restrict its spread.

About 1830, however, the anti-slavery movement took on new life, and the forces which favored slavery and those which opposed it were crystallized and energized. The unification of southern sentiment in favor of slavery and in opposition to abolition is easily explained. In large part, no doubt, the profitableness of slave labor in growing the staple southern crops was responsible for this attitude. But the serious if not insuperable difficulties inherent in the complete abolition of slavery constituted a still greater obstacle to emancipation. The Nat Turner insurrection in Virginia

¹ See Chapter XVIII, p. 444.

in 1831 apprised the whites of the danger to them from the presence of free Negroes, and led to the introduction of a bill in the legislature the following year for the deportation of free blacks from the state, which failed of passage by only four votes. The real issue of emancipation, however, found no hearing at this time in Virginia nor afterwards in the South. A great many persons in the South were convinced of the evils of slavery, especially the yeoman farmers who were adversely affected by it, but even these groups preferred slaves to free Negroes. Such anti-slavery sentiment as there was in the South died out after 1830, due to several factors. In the first place the nullification movement led by South Carolina against the tariff, and the attendant controversy, revealed a fundamental economic antagonism between the two sections; and finally increasing criticism of the South by northern abolitionists changed apathy into defence and even positive advocacy. (The large non-slave-owning class preferred to follow the lead of the Southern planter class rather than that of northern abolitionists, whose violence alienated them. These and other factors made the average Southerner anti-abolition even if he never became warmly pro-slavery in the sense of regarding slavery as a good in itself.)

The gathering sentiment in the North against slavery may be divided into two groups: the political anti-slavery movement which simply resisted the extension of slavery into new territory; and the abolition movement which demanded immediate emancipation of the slaves. The former was negative, seeking to restrict slavery so that it would die of suffocation or inanition; the latter was positive, destructive, ready to wreck the South if necessary to achieve its ends. The anti-slavery advocates were much more numerous than the abolitionists, but as time went on the two groups tended to draw together, though such men as J. Q. Adams and Lincoln, outspoken opponents of slavery as they were, would never admit that they were abolitionists. The two movements drew their strength from much the same sources, however, and were not clearly distinguished. A number of events occurred about 1830 which help to explain the recrudescence of the movement in the North just at this time.

Beginning with 1821 slavery was abolished in all the Latin-American countries except Brazil. Great Britain provided in 1833 for the extinction of colonial slavery in the British West Indies in seven years, with a compensation of twenty million pounds to the owners. By 1848 all the West India islands had followed suit except those belonging to Spain.

Within the United States a whole crop of reform movements sprang up between 1815 and 1845 and showed the existence of an emotional and intellectual ferment such as has probably never been equalled before or since in this country.² In religion there were such movements as Unitarianism, the rise of the Mormon Church, Millerism, the Campbellites, Spiritualism, and others; a growing humanitarianism showed itself in better care of the defective and dependent classes, in the abolition of imprisonment for debt, and in the temperance movement. Industrial reform found expression in the communistic experiments of Owenism and Fourierism and similar movements; politically, the extension of suffrage, popular election of judges, and the abolition of property qualifications showed a willingness to try any new device; and socially, vegetarianism, the wearing of bloomers by women, and other fads showed that the restraining hand of tradition had but a slight hold upon the American people.

In such an environment William Lloyd Garrison published *The Liberator*, in the first number of which appeared his address to the public: "I shall strenuously contend for the immediate enfranchisement of our slave population. . . I do not wish to think, or speak, or write with moderation—I am in earnest—I will not equivocate—I will not retreat a single inch, and I will be heard." Garrison was animated by a single thought, that slavery was a crime, and he had only one remedy, the abolition of slavery. The effect of men like Garrison, and the greatly superior group of men and women who rallied to his banner, like Wendell Phillips, Whittier, Lowell, Emerson, and Harriet Beecher Stowe, in arousing public sentiment in the North against slavery is difficult to determine. That their agitation aroused public feeling, both in the North and in the South,

² See T. C. Smith, *Parties and Slavery* (New York, 1906), 268-73.

is undoubted, but the wisdom of such violent methods may well be questioned. They refused to consider slavery as an historical and economic category whose ultimate doom was sealed by the exhaustion of the cotton lands, but treated it merely as an ethical wrong demanding immediate extinction.

In the writings of these men there is evidenced no appreciation of the historic setting or the economic bearings of slavery, or the difficulties involved in its abolition. The political anti-slavery leaders seemed to think that it was merely a legal matter, and did not understand that economic conditions determined the spread of slavery into a region; while the radical abolitionists refused to parley or negotiate, and demanded immediate abolition. The result was the creation of a situation in which each section viewed the other with hostility and distrust. Today one may seriously question the statesmanship displayed by both sides in dealing with the slavery problem. When the South lost political control of the federal government secession seemed the only way left to save slavery. The exhaustion of the soil in certain sections, the increasing burden of indebtedness, and the depression of 1857 may have contributed to the discontent.

The Civil War.—In their illuminating *Rise of American Civilization*³ the Beards designate this struggle as “the second American revolution” and describe it as a social war, involving almost a complete transformation of the social and industrial life of the nation. It was a struggle between two opposing economic systems, each of which had used its political power to promote its own ends. The planting and the commercial states, as they were called when the Constitution was adopted, had for nearly three-quarters of a century maintained a fairly even political balance, but the economic scale was tipping heavily in favor of the latter, for to commerce there was now being added industry. That the struggle between these two opposing systems should have been sectional was an accident of climate and geography, but it was inevitable that in a country as large as the United States the territorial specialization of occupations

³ Vol. II, 53.

should produce cleavage of interests. That the planting interests were based upon slavery, between which and free labor there was absolute antagonism, merely made the conflict the more inevitable. Had it not been for this factor, it is conceivable that other adjustments might have taken place, such as those which have resolved in large measure the sectional divergence between East and West and are today removing the sectionalism between North and South.

It is not a sufficient interpretation of the struggle to say that the Civil War was fought to free the slaves, nor does the emphasis upon the constitutional aspects of states' rights or strict and loose construction of the Constitution throw sufficient light upon the questions at issue. The doctrine of states' rights was invoked by both sides when it was convenient and ignored when it was not. New England appealed to it in the Hartford Convention of 1814 against the encroachments of federal power, as did South Carolina in her nullification ordinance of 1833. During the long slavery controversy it figured in the debates first on one side and then on the other. On the whole, however, the South found more advantage in asserting this doctrine than did the North. The planting economy was based upon territorial specialization, which involved exchange with other regions. It was to their interest consequently to have complete freedom of trade, and after 1816 they consistently opposed the policy of protection advocated by the growing manufacturing interests of the North.

In spite of their inferiority in wealth and manufactures the men of the South believed that they had a resource which would enable them to withstand the North. Cotton, they thought, was so valuable in the world's commerce that if its free flow were prevented the nations of Europe would come to the support of the South, would recognize its independence—or at least its status as a belligerent—and would demand that the southern ports be kept open. This view was stated at length by Senator J. H. Hammond, in a speech delivered in 1858: * "Without firing a gun, without drawing a sword, should they make war on us we could bring the whole world to our feet. . . What would happen if no

* Cited by J. A. B. Scherer, *Cotton as a World Power* (New York, 1916), 239.

cotton were furnished for three years? I will not stop to depict what every one can imagine, but this is certain: England would topple headlong and carry the whole civilized world with her, save the South. No, you do not dare to make war on cotton. No power on earth dares to make war upon it. Cotton is King."

The men of the South, like the colonists during the Revolution, were mercantilistic in their thinking and believed that their trade was so important that other nations would come to their assistance in order not to lose it. They hoped for recognition and aid from England, just as the colonists had been helped by France; but two reasons prevented their hopes from being realized: in the first place England was well supplied with cotton at the beginning of the struggle, and, secondly, she needed northern wheat even more than cotton. The South had produced a record crop of 5,387,000 bales in 1860, of which England had imported about 1,650,000 bales, and in the first half of 1861 took about 1,000,000 additional. So great was the amount on hand in England, writes Scherer,⁵ that "mill owners even longed for an effective blockade to relieve the glut of the market." During the latter half of 1861 the blockade became effective and very little southern cotton left American ports, the English imports amounting to only a hundredth of the quantity received the year before. Great distress was occasioned in the industrial districts, but British workmen stood firmly against recognition by their government of the Confederacy and its system of slave labor. Lincoln and his cabinet and ministers abroad fully recognized the perils of the situation and gave constant attention to the conciliation of English public opinion and the prevention of any movement for intervention.

But other economic factors were working on the side of the North. During the first three years of the war crops were poor in England, and at the same time exports from Russia, Prussia, and France, the usual sources of supply, fell off. The American harvests were large in every one of these years and afforded timely relief to British consumers. After weighing the relative value to England of cotton and wheat

⁵ *Op. cit.*, 265.

Fite⁶ concludes that, "while the need of grain would not have prevented England from defending herself from a war of aggression by the United States, it was doubtless one of the factors, and an important one, in preventing aggressive demonstrations by England in favor of the Confederacy and against the United States."

Thus while the North prospered the South was ruined, and to this end no factor contributed more than the blockade. One of the earliest military measures of the federal government was the declaration of a blockade of all southern ports, which gradually tightened and became more effective as the war progressed. The Confederacy had few ships and only seven deep water ports, which were fairly successfully blockaded, so that foreign trade was effectively prevented. Under the specialized economy of the South before the war, that section had depended upon the sale of her cotton abroad or in northern markets to supply her with the myriad commodities which she bought there in return. Her economic life depended on foreign trade, and this was now destroyed. The territorial division of labor and the domestic exchanges with the North and the West were also broken up. As the blockade prevented the South from marketing its cotton and other staple crops abroad, so it also cut off return supplies of war munitions, equipment, capital of various kinds, and consumable commodities of every description.

(The gains of territorial specialization are available only if peace prevails; in the event of war the nation or the region which has concentrated on one crop or calling is at a great disadvantage. In 1860 the South was in this position. During the previous half century it had concentrated its capital and labor on a few staple crops, and had neglected the exploitation of its mineral resources or the development of manufactures. The North, on the other hand, had built up its industries alongside its agriculture and had knit the two together by a widespread system of transportation and banking enterprises. Practically all of the iron, steel, and munitions industries were in the North, as were the textile factories.) In 1860 the South produced only 523,000 tons

⁶ E. D. Fite, *Social and Industrial Conditions in the North during the Civil War* (N. Y., 1910), 21.

of coal and 76,000 tons of iron as against 14,650,000 tons of coal and 2,438,000 tons of iron in the North. Over 92 per cent of the total manufacturing output of the country was produced in the latter section. Two-thirds of the banking capital and over two-thirds of the railroads were in northern hands. And even the foreign commerce, to which cotton contributed so largely, was carried in northern ships and flowed through northern ports. In agriculture alone the South led; it produced all the cotton, sugar, and rice and practically all the tobacco grown in the United States. One-half of all the swine and corn were produced in southern states in spite of their numerical inferiority. But an inadequate transportation system prevented the economical distribution of these products from the food-producing to the food-consuming regions within the South.

(The outcome of a modern war is determined not alone by the military or naval power of the contending parties, but also by their economic and financial strength. The Civil War was not a war of equipment, such as the World War was, yet it threw a heavy burden upon the industries of each section, the ultimate outcome being largely determined by the greater economic strength of the North. It was, however, the first great military conflict in which railways were a highly important factor, and the backwardness of the South along this line undoubtedly contributed to her defeat. Northern factories, mills and forges, farms, railroads, and steamships furnished needed supplies, while in the South most of these were lacking.) There were no facilities there for the manufacture of arms or of rails, no foundries to cast modern guns, nor shops in which locomotives could be built.

The Confederate government found it necessary to establish plants in which these things could be produced, as well as gun-powder, salt, and some other articles, while private initiative provided clothing and household necessities.) Of some things, like quinine, calomel, opium, and medical and surgical supplies there was a tragic lack. "In general, there was a reversion to hand industry. The hand looms and spinning-wheels were brought out and much of the clothing and shoes for civilian and soldier were plantation-made. . .

⁷ G. C. Eggleston, *History of the Confederate War* (N. Y., 1910).

This rapid return to household production was like turning the hands of civilization back a hundred years, an undoing of the Industrial Revolution. (The development of war-manufacturing was severely handicapped by the lack of surplus capital. Previously all of the excess wealth had been invested in land and slaves,) and much of the liquid capital at hand during the war years was attracted almost exclusively to blockade running, where profits were enormous.”⁸

(The diversion of capital, of land, and of labor, especially that of the slaves, from the specialized work of cotton-growing, in which they were highly productive, to other unaccustomed lines of activity, involved in itself a serious economic loss. During the war the South was worse clothed, fed, and provided with comforts than it had been before.) The least loss was experienced in the shift from cotton to grain and meat production, for the land and labor could most easily be diverted from one agricultural product to another. But the breakdown in transportation prevented a proper distribution of the existing supplies. Of the 30,000 miles of railroad in the country in 1860, almost 9000 were in the South, but they were badly located, and their equipment wore out rapidly under the strain put upon them. The result was that while there was a glut of foodstuffs in one district, another might be facing famine. Thus in 1864, while corn was selling in Georgia for \$1.00 a bushel, it brought \$15.00 in Virginia.

(In the North, on the other hand, industry and agriculture were thriving. As a result of the war demand for agricultural products, and also of the inflation of the currency, prices rose rapidly and production was greatly stimulated. Not merely were foodstuffs needed, but also wool for uniforms and hay and feed for army horses and mules. To obtain these supplies it was necessary to supplement the dwindling supply of labor, as men were drafted into military service, by the introduction of labor-saving machinery. It has even been asserted that the issue of the Civil War was decided by the invention of the reaper.) The number of two-horse reapers in operation throughout the country, in the harvest of 1861, was estimated to have performed an

⁸ H. U. Faulkner, *American Economic History* (N. Y., 1924), 397.

amount of work equal to about a million men. In 1865 it was estimated that there were not less than 250,000 reapers in use in the United States, each of which could cut an average of ten acres in a day of twelve hours. (Women and boys assisted in the work of the farm, which they could scarcely have done without the aid of agricultural machinery. The ultimate victory of the North was no doubt largely due to the fact that during the war the gathering of the harvests and the development of the Northwest proceeded uninterruptedly.) For instance, the wheat production of Indiana increased from 15,000,000 bushels in 1859 to 20,000,000 in 1863, although one-tenth of her adult male population was in the army.

Financing the War.—(The South Carolina Ordinance of secession was passed on December 20, 1860; the Southern Confederacy was organized February 4, 1861; and Civil War began with the firing on Fort Sumter, April 12. With the raising and equipping of armies the need of revenue became at once urgent in both the Union and the Confederacy.) The problems of public finance lie outside the scope of this volume, but the economic consequences of some of the financial measures enacted during the war were so momentous that a brief survey of the more important acts is necessary. (The belief was generally entertained in the North that the war would be of short duration, and consequently slight resort was had to taxation. Secretary Chase took the position that new taxes should be levied only sufficient to meet the interest and sinking fund requirements of the new loans. The main reliance for the revenues needed to carry on the war was placed upon borrowing.) During the first year of the war \$8.52 was raised by the Union treasury by loans for every dollar that was obtained from taxation; even at the end the ratio was still three to one. Altogether the federal government collected in taxation during the war \$667,000,000 as against \$2,621,000,000 derived from the flotation of loans. (The Confederacy was still more handicapped in raising revenue; taxation was unpopular,) the population was sparse, the central government had little authority except in levying customs duties, which the northern blockade quickly rendered illusory, and other taxes

levied were inadequate and slow in their yield. (Loans were made at home and abroad, but there was only a limited market for the bonds of a rebel government and the returns from this source were insufficient.)

Of metallic money there was only a small supply in the South, and specie payments, that is the use of coin in ordinary transactions, were suspended there soon after the war began. In the North specie payments were suspended by the end of 1861. Both sections next resorted to the use of legal tender paper money, issued directly by the governments, to finance the war. In the North these issues, known as United States notes or "greenbacks," amounted to \$450,000,000; while in the South, with half the population and one-third the wealth, about \$1,000,000,000 of fiat money were put out by the Confederate treasury. But in addition the separate Southern states issued their own notes, and even cities and counties, banks, railroads, and finally private persons put in circulation notes or tickets which passed as money. One of the first financial effects of the issue of this inconvertible paper money was its depreciation or fall in value, evidenced by a rise in the prices of commodities.

The issue of paper money acted like a tax upon the people, but a most unfair tax and one for which there was no commensurate return to the government. Insofar as the government was an employer of labor there was a certain saving at the expense of the workers, but this was more than offset by the loss of the most efficient employees.) The wage of the Union soldiers remained at \$13 a month until May 1, 1864, when it was raised to \$16, a change which fell far short of the actual increase in the cost of living. In general, workingmen were able in time to secure advances in their wages, especially in the better organized trades; in some cases, however, where incomes were relatively fixed, as those of school-teachers, ministers, and salaried persons in general, it was difficult to make both ends meet. To some extent it was possible to obviate the pressure of higher prices by substituting some lower priced article for the more expensive one, but insofar as this necessitated a lowering of the standard of living, it was a most regrettable result of the paper money policy.)

(Prosperity in the North.—The industrial development of the northern states was measurably accelerated by the Civil War, although not caused by it. Manufactures which supplied war needs and which were protected by the tariff from foreign competition flourished amazingly; such were thread, steel rails, and woolen cloth.) Behind the tariff wall the domestic manufacturer could expand his operations and venture upon new lines with less risk than under the freer trade of the earlier period. An impetus was given too by the steadily rising prices of the paper money régime; almost any one who could produce goods for sale, could market them at a profit. And if a manufacturer could obtain a government contract his fortune was assured. Profits of fifty to one hundred per cent were not unusual on a government contract. (Such industries as the manufacture of guns, of ready-made clothing, of shoes, and of many other articles which were needed to supply the soldiers grew and prospered enormously.) In the making of these articles the production of large quantities of uniform goods of standard sizes and patterns was essential; here machine methods were especially valuable. The sewing machine had already been used in the clothing industry and now it was adapted to the making of shoes; without this wonderful invention it is certain that the war needs of the northern armies could not have been met, at least not by American production. The war demand for artillery and small arms, ammunition, clothing, camp and garrison equipage, and similar items amounted, according to the Secretary of War, to about \$150,000,000 for the last year of the war; most of this was a net addition to the normal production of the people.

(The fiscal needs of the federal government opened the door to two important changes in our financial system, which had far-reaching consequences. These were the protective tariff and the national banking system.) So long as the political strength of the southern states was evenly balanced against that of the North the free-trade interests of the planter-group, reinforced by the commercial interests of New England, had held the tariff down almost to a revenue basis. But now the industrial interests, called into new activity by the exigencies of the war, seized the opportunity

to raise the tariff rates on imported commodities. (The tariff was revised several times between 1861 and 1865, being increased each time; it reached its maximum in 1864, when the yield was \$102,000,000. This resulted both from the swelling volume of imports and from the higher rates, which, however, failed to check the imports. Although many of the increases were merely "countervailing" duties to offset the heavy internal revenue taxes, now resorted to for the first time since 1817, and complained of bitterly by the domestic manufacturers, there was a large measure of protection in the war tariffs. The general average of rates was raised from about 25 per cent in 1857 to 47 per cent in 1864. Such duties exceeded anything hitherto experienced in American tariff legislation, and were a symptom more than a cause of the growing industrialism, but they marked the complete transference of political and economic power from the old planting class of the South to the new manufacturing interests of the North.)

(The period of the Civil War also witnessed the establishment of a national banking system, which was essential to the building up of a capitalistic financial structure.) Advocated by Secretary Chase for the purpose of providing a safe and uniform currency in place of the heterogeneous mass of notes issued by some sixteen hundred local banks, and also of affording a market for the government bonds, the national system was speedily approved by sound business interests, and state bank-notes were driven from the field by a federal tax of 10 per cent in 1866. (The new system of a national currency assisted the development of an expanding industrialism which transcended state boundaries and catered to larger domestic and even foreign markets.)

(Effects of emancipation on the South.— While the North was prospering and expanding in every direction in spite of the burdens of war, the South was suffering unparalleled loss and destruction. One of the effects of slavery had been the investment and fixation of a vast amount of capital in the persons of slaves.) Had slavery never existed, the \$2,000,000,000 at which the almost 4,000,000 slaves were valued would have taken various other forms. It would have appeared in the form of improved lands, of better

houses, barns, and fences, of factories and workshops, of railroads, banks, and other similar improvements. But slavery had prevented these other investments from being made, for of every accumulation of capital the major part was sure to assume the form of slaves. (In the planting areas slaves were more valuable than all other property, real and personal.

Did the emancipation proclamation destroy this property in the form of slaves? Insofar as they were the *property* of the slave-owners, there can be no doubt as to the answer to this question. The owners were suddenly deprived of their former wealth, without any compensation, and were left that much poorer. But it may be inquired what became of this property, since the slaves were not destroyed.) The ownership of the slaves was transferred from their former owners to the slaves themselves, who now became freedmen. (This human capital was not destroyed, but its possession, direction, and management passed, with the emancipation proclamation, to a group different from the former planting class.) Whatever the former slave-owners may have suffered in the deprivation of their human investments, (no economic loss to the South as a whole would seem to have been involved, for what the planters lost the slaves gained.) This statement, however, is true only if the freedmen utilized their own powers under freedom as efficiently and as productively as the slave-owners had utilized the labor of these same Negroes under slavery. The evidence on this point is contradictory, but seems to warrant a conclusion in the negative so far as the immediate effects were concerned.

In the European states the serfs had been liberated from bondage, but in every instance provision had been made for granting the former bondman a part at least of the land which he tilled. Abolition of serfdom brought the serfs personal freedom and it also left them owners or tenants of the land and gave them an opportunity to improve their condition. Emancipation of the slaves in the South freed them from personal subjection to masters whose chattels they had been, but it also severed their connection with the soil. Emancipation, said Frederick Douglass, himself an ex-slave and distinguished Negro leader, "left the freedmen in a bad condition. (It made him free and henceforth he must

make his own way in the world. Yet he had none of the conditions of self-preservation or self-protection. He was free from the individual master, but the slave of society. He had neither money, property, nor friends. He was free from the old plantation, but he had nothing but the dusty road under his feet. . . He was turned loose, naked, hungry, and destitute to the open sky.”)

(Some of the more radical members of the anti-slavery party proposed, indeed, that the freedmen should be given a portion of the land which they had tilled, but this suggestion was never seriously entertained, and would probably not have solved the problem.) Aside from the injustice of confiscating for this purpose land which belonged to private individuals, the Negroes had never been trained to acquire and retain their own holdings, to plan and carry out a system of farming, or to manage the business side of agriculture. They were without the capital to finance their operations, even if they had possessed the necessary training and skill. Since they were not given land, and had not the means of acquiring it immediately, they became, as Lincoln phrased it, “a laboring, landless, and homeless class.”

(It was difficult under the new conditions to introduce the wage system, for neither planter nor freedman was accustomed to reckon in terms of money-wages services for which formerly bare subsistence had been given.) The Negroes, judging labor of any kind a badge of slavery, and esteeming idleness the greatest blessing of liberty, deserted the plantations in large numbers and sought their pleasure in the towns. (They worked only under the compulsion of want, and after receiving their wages frequently refused to work again until their money was exhausted. In these circumstances the planters adopted various plans of obtaining the necessary labor and of forcing the Negro workers back into their former places in the agricultural economy.) They advanced rations to the Negro laborers, but postponed the payment of wages until crops were in ; and even then they not infrequently failed to make over the wages due. In other cases they tried to restore a kind of servitude by means of apprenticeship, vagrancy, and poor laws under which wandering Negroes could be arrested and sentenced to hard

labor on a neighboring plantation. To the North such legislation seemed merely an effort to restore slavery under another name. This move was checked by the passage by Congress in 1866 of the Civil Rights Bill, which was designed to give to the freedmen the legal rights of American citizens.

(The loss of their slaves inflicted a serious property loss upon the southern planters, but other penalties were imposed upon them by the victorious party in Congress.) "All the war debts and obligations incurred by the Confederacy and the states under its jurisdiction were abrogated by the Fourteenth Amendment and payment of the same by the United States or by any state was absolutely forbidden."⁹ By this act millions of dollars of titles to wealth were destroyed and one more blow struck at the impoverished planter class. (The war had deprived them of their slaves, destroyed much of their stock and equipment, ruined their business, and now Congress denied them the opportunity of shifting some of the burden to other tax groups. The money cost of the war was borne by the generation which waged it. Incidentally, it may be noted that the cost was much greater than the total value of the slaves.

⁹ Beard, *Rise of American Civilization*, II, 104.

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CHAPTER XX

AGRICULTURAL EXPANSION

ONE of the most striking features of American agriculture during the period from 1860 to 1914 was the lack of equilibrium between supply and demand and the frequent and painful readjustments rendered necessary thereby. Production outran the capacity of domestic and even of foreign markets to absorb the agricultural surplus at profitable prices. As a result, prices were generally low and farmers were discontented. In seeking for explanations of their troubles they directed their attention to railroad rates, marketing practices, the supply of money, and anything except the real cause. Other problems of land utilization, of shifting areas of production, and of changing agricultural technique made this a period of constant readjustment and of political and economic experimentation.

The appropriation of the public domain.—More than half the area of the country—1,048,000,000 out of 1,920,000,000 acres—still remained in the public domain in 1860. Beginning with the Homestead Act of 1862 the government adopted the policy of giving away the land in free farms of 160 acres each to settlers in place of the early policy of attempting to obtain some revenue from its sale. The policy of giving the land away had been debated for thirty years. Free homestead bills had been uniformly opposed by southern members in Congress because they realized that the settlement of the Northwest would thereby be stimulated and the balance between free and slave states would be upset. The Republican Party had voiced the demands of the workers for free land by including a homestead plank in its platform, and in 1862 it redeemed its campaign pledges by passing such a law. This was now done without difficulty as the southern members had withdrawn from Congress.

The fundamental principle of the act was the grant of a

free homestead not exceeding 160 acres to the actual settler ; after five years' residence the title passed, without charge, to the "homesteader." This was the logical outcome of the pre-emption system and was the accepted policy of the government in disposing of the public lands down to 1935, when it was discontinued. The acquisition of a farm home, especially for those with little capital, was thus made easy and profitable.

(During the following decades the principle of the Homestead Act was liberalized and extended. In 1870 veterans of the Civil War were permitted to count their term of service against the five years' residence which was required of homesteaders. In this decade a series of acts was passed which were designed to facilitate the process of alienation of the public domain. The Pre-emption Act, which was not repealed until 1891, permitted a homesteader to purchase an additional 160 acres at the minimum price of \$1.25 an acre. The Timber Culture Act of 1873 granted 160 acres to anyone who would set out trees on the tract. The Desert Land Act of 1877 gave 640 acres to anyone who would irrigate it and pay to the government \$1.25 an acre. The Timber and Stone Act of 1878 allowed citizens to purchase 160 acres of land unfit for cultivation but valuable for timber and minerals at \$2.50 an acre.) It was possible for an individual under these five acts to obtain two entire sections of land at a minimum cost. (In 1909 an act was passed permitting the homesteading of 320 acres in the semi-arid belt, where a quarter section was insufficient for profitable cultivation. The same principle underlay the Stock-Raising Homestead Act of 1916, which granted 640 acres of non-irrigable land for grazing purposes.) Residence requirements were also liberalized, being cut to three years in the former case and in the latter being replaced by improvements equivalent to \$1.25 an acre.

(The purpose of these various acts was to create a land-owning, home-owning class of independent farmers. Under pressure from land speculators and from the mining, cattle, and lumber interests, however, features were introduced which partially nullified the good intentions of the act. The most hurtful was the privilege of commutation, by which a

homesteader was permitted after six months of filing his claim to obtain title by paying \$1.25 to \$2.50 an acre for it ; in 1891 the residence requirement was raised to fourteen months. For the first two decades little use seems to have been made of this privilege, and practically all the homesteaders acquired their land by residence. After 1880, however, the picture changed. More people were taking up land, the railroads were opening up new regions, the cattle industry was flowing over the Great Plains, and the price of land was going up. Many homesteaders, therefore, took advantage of the commutation privilege, bought their lands as soon as possible and sold them at a profit. But not all the homesteaders were genuine farmers.

Many other persons had taken advantage of the looseness of the land laws and the laxity of their administration to obtain immense holdings of the public domain. Mining and lumber companies filed claims to the maximum allotments through each employee or through dummy homesteaders, and took over the land from them after six months by paying a minimum price, thus obtaining lands worth many times the sums paid. Of the 128,000,000 acres homesteaded between 1862 and 1912 probably between one-fourth and one-fifth was commuted, most of which, it may be surmised, went into the hands of large corporations. During the same period about 120,000,000 acres were allotted to the land grant railroads.¹ Serious abuses of the land system were reported by a congressional commission in 1879, and until the second administration of Cleveland (1892-96) "the public land office of the United States was little more than a center for the distribution of plunder ; according to President Roosevelt's land commission, hardly a single great western estate had a title untainted by fraud."²

Although the liberal land policy ushered in by the Homestead Act was hailed at the time as a socially constructive and democratic method of promoting land ownership and of settling the western states, its wisdom has been seriously questioned by later generations. In the first place the original intention of the acts, to place the land in the hands of inde-

¹ See p. 594.

² Beard, *Rise of American Civilization*, II, 199.

pendent owners, was in fact frustrated by the fraudulent evasion of the law, so that much of the land came into the hands of mining and lumber companies or of land speculators. In the second place the grant of 160 acres was entirely too small for much of the public domain that was brought under the Homestead Act. Although this was partly corrected in later acts, many luckless homesteaders were enticed to the public lands by the lure of a free gift, only to find that they could not make a living on it. A proposal to grant each homesteader a government loan of \$500 to equip his farm was introduced in the House of Representatives in 1878, but was not passed. In the third place land settlement was unduly stimulated, land was brought under cultivation more rapidly than it was needed, wasteful methods of farming were encouraged, the market was glutted with unwanted crops, agricultural prices were depressed, and the value of land in the older sections of the country was decreased. It is significant that the very regions in which homesteads were most largely taken up were those in which distress was subsequently most acute and in which discontent was most general. A slower movement and a more gradual settlement of the new land in response to market demand would have avoided some of the later difficulties of the American farmer.

Not all of the blame can, however, be placed on the Homestead Act, for much of the land put under the plow by early settlers was purchased from the railroads. It was more economical for a settler to purchase a farm from a land grant railroad, which would convey his produce to the market, than to homestead a tract 20 to 40 miles from a railroad to and from which he must haul everything over bad roads. The lavish grants of land to the railroads, which carried on vigorous policies of land settlement, were therefore also responsible for the undue rapidity of the westward movement. The table on the following page shows the disposition of the public lands.

Settlement of the public domain.—The movement of the population into the territory thus opened up proceeded at a pace that made the earlier westward movement seem slow indeed. During the decade 1860–70 the movement barely got under way, for only 500,000 acres were added to

Chapman

DISPOSITION OF THE PUBLIC LANDS*			
<i>Perfected homestead entries</i>		<i>Grants to states and corporations for railroads</i>	
PERIOD	ACRES	PERIOD	ACRES
1868-1891	52,000,000	1850-1923	129,000,000
1892-1912	76,000,000		
1913-1939	118,000,000		

* *Statistical Abstract of the United States*, 1940, 130, and B. H. Hibbard, *A History of the Public Land Policies* (New York, 1924), 264, 396-98. This does not include lands obtained under the Pre-emption Act, Desert Land Act, Timber and Stone Act, etc., nor cash sales.

the farm area. The next three decades witnessed the most remarkable migration that history has ever recorded. In the single decade 1870-80 over 190,000,000 acres, or a territory equal in extent to Great Britain and France combined, were added to the cultivated area of the United States. The introduction in the early seventies of the roller process of reducing wheat to flour stimulated the raising of spring wheat and gave an impetus to the settlement of Minnesota and the Dakotas where it was chiefly grown. The greatest growth now took place in the newer states of the Northwest, although even in the somewhat older states like Illinois, Iowa, and Missouri, the increase of settlers was more rapid than that of the population as a whole. This settlement of the wheat and corn belts resulted in a great increase in the production of grain, which was facilitated by the introduction of the new agricultural machinery. William H. Seward is said to have stated that "the harvester pushed the frontier westward at the rate of thirty miles a year."

(After 1880, when the transcontinental railroads were making new areas accessible, the westward movement went on still more rapidly. In the twenty-year period, 1880-1900, there were added to the farm area over 303,000,000 acres, or a territory equal to the rest of Western Europe, with the exception of Spain.) By this time the frontier had disappeared and the predominance of agriculture in American economic life had come to an end. (Between 1900 and 1910

there was an addition to the land in farms of only 40,000,000 acres, an area, however, more than equal to Spain. The number of farms increased between 1860 and 1910) from 2,044,077 to 6,361,502 ; in other words, (more than twice as many farmers were settled in these fifty years as in the previous three hundred years of American history. Probably most of the tillable land taken up under the Homestead Act went into the possession of small holders, although there were a few large estates.)Undue attention has been attracted by the 70,000 acre farm of M. L. Sullivant in Champaign County, Illinois, a 50,000 acre farm in Minnesota, and one of 40,000 acres in Dakota Territory, for these were exceptional.

(The men who settled those western farms were for the most part native Americans. The disbanding of the army set free thousands of young men accustomed to an active outdoor life, and the liberal provisions of the Homestead Act attracted them to the free lands of the West. These people were, for the most part, without capital and they were therefore forced to pioneer. They built log or sod houses or frame shanties, plowed a small tract of land, and gradually expanded their farm operations. Within a lifetime they became prosperous farmers.

The opening of new land to settlement also stimulated immigration to such an extent that during the twenty years, 1860-1880, some 5,500,000 persons came to the United States, of whom a large proportion settled in the Middle West. Of these immigrant settlers the Germans came first,) fairly flooding Wisconsin and besprinkling the Middle West in general. (A little later the Scandinavian elements settled Minnesota and the Dakotas, finding in those states climatic conditions similar to those in their European homes.) By the nineties the frontier had disappeared, the source of immigration had changed from northern Europe to southern Europe, and the later arrivals preferred to settle in the eastern cities rather than to become farmers. (The immigrant farmers impressed certain features upon American agriculture, such as the dairying and cheese making of southern Wisconsin, and also upon social institutions and political thinking) which are clearly discernible in these sections today.

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Pioneering on the Great Plains was very different from that of the settlers in the wooded tracts between the Atlantic coast and the Missouri River. This new district stretched roughly from the Red River to Canada and from about the 98th meridian to the Rocky Mountains. The absence of trees, the deficient rainfall, the presence of hostile Indians, and the cattle industry combined to introduce marked changes in the methods of pioneering and of living. In the presence of new conditions, old traditions were scrapped and social institutions were modified. Water was to be had for the most part only by digging wells—shallow affairs, 20 to 30 feet deep on the plains, but 100 to 200 feet deep on the ridges and high table lands. The introduction of windmills, which became common in the late seventies, was a great boon. The general use of barbed wire, about the same time, permitted homesteaders to fence in their holdings and increased the conflict between them and the ranchers.

(This combination of land and labor needed only the assistance of capital to become productive. This capital took two forms, namely : that used by the farmer himself to stock and implement his farm, and that invested by society in railroads and transportation facilities by which his products could be carried to markets and other supplies furnished to him. The second of these will be treated in a later chapter. Of the first, the most important form, at least in the grain states, was agricultural machinery, and to this we may now turn.

Agricultural machinery.—The relative scarcity of labor, as contrasted with the enormous tasks to be performed, compelled the farmers to make use of labor-saving machinery as they had done ever since 1830. But now it was introduced on a still more extensive scale. Most of the new inventions had to do with cereal production, it being estimated in 1880 that over 10,000 patents had been granted in this country up to that time for implements and machines connected directly with the cultivation, harvesting, and handling of grain. Machinery having to do with the preparation of the land, as the plow, with planting, as grain drills and corn planters, and with cultivation, as harrows, had been carried a long way toward perfection before 1860, but the great improvements after that date centered about the reaper and thresher.) The

climate in the grain states required a prompt harvesting when the grain was ripe ; accordingly the limit upon production was set by the possibility of gathering the crop rather than of planting or of tilling it.

The invention of the reaper has already been described, but (the early machine merely cut the grain ; it was necessary for a man to rake the piles of cut grain off the machine and for still other men to gather and bind it. The first defect was met by the self-raking reaper. The second was lessened by the Marsh harvester, on which a traveling apron elevated the cut grain into a receiving box, from which it was taken and bound by two men riding on the platform. (The final step was the invention of the self-binder.) Many experiments had been made and patents issued in the fifties and sixties for binders that used cord, straw bands, metal strips, and wire ; of these, the binders that used wire for holding the sheaf were most successful, but the wire was expensive and frequently caused damage.

(Finally in 1878 John F. Appleby, of Wisconsin, invented the twine binder. This permitted one man to do as much as eight men had done before.) "It was the twine binder," wrote Professor Carver,³ "more than any other machine or implement that enabled the country to increase its production of grain, especially wheat, during this period. The per capita production of the country as a whole increased from about 5.6 bushels in 1860 to 9.2 bushels in 1880." In the latter year the census reported that "probably four-fifths of all the wheat grown in the United States is cut by machine."

(A further improvement was made by the addition of the bundle carrier, which dropped a number of sheaves at the place where they were to be shocked.) In the dry climate of the Far West, where the heads of grain dry on the stalk, the header was used, which simply cut off the heads and deposited them in a wagon. (Finally, the perfecting of a combined harvester and thresher about 1885, and a general substitution of steam and later of gasoline for horse power to run threshing machines, permitted the grain to be cut and threshed, cleaned, sacked, and weighed without the intervention of human hands.

³ T. N. Carver, *Principles of Rural Economics*, 99.

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(Other machines were invented for planting and cultivating.) Plows were improved and specialized, harrows were made more effective by giving the teeth a backward slant ; and the lister, which plows and plants at the same time, was introduced about 1880. (Grain drills and corn planters had been invented and used before the Civil War) but now an improvement was made by the check rower, which allowed the planting of the crop in rows running at right angles to each other, thus permitting cross cultivation. Haying was also given attention and the backbreaking work connected with this crop was practically eliminated by the introduction of such machines as sulky rakes, tedders, hay loaders, hay stackers, and hay balers. (Along other lines numerous implements were introduced which greatly lessened or altogether did away with hand labor.) Even in the South, as the relative scarcity and unsatisfactory character of labor stimulated invention, the cotton seed planter, fertilizer distributor, cotton stalk cutter, and various specialized kinds of plows and harrows were introduced in the cotton belt. The cotton gin was greatly improved, but the efforts to perfect cotton-picking machinery did not meet with success.

(The value of farm implements and machinery in the hands of American farmers increased from \$246,000,000 in 1860 to \$1,265,000,000 in 1910 ; but the power represented by these machines increased in much greater proportion, for the cost was steadily being reduced.

(Hardly less important than the invention of agricultural machinery were the improvements in the methods of transporting and handling the grain. As long as it remained in the farmer's hands the grain was carried entirely by hand in bags or sacks and was moved by teams. After it left the farm it was handled and carried in bulk by steam power.) A system of grading and classification was established by which all specific lots of a certain grade were dealt with together in bulk, in the most economical manner.) This made possible the marketing of grain by description instead of by delivery of a specific lot, and greatly facilitated dealings on the produce exchanges. The use of elevators for transferring or storing grain made it possible to load vessels from the elevators at the rate of 8000 to 10,000 bushels an hour. (The

use of such unique methods alone made it possible to handle the growing grain trade of the country.

Increased production.—The addition of the vast areas to the improved farm lands of the United States, and their efficient utilization with the aid of improved agricultural machinery, resulted in a rapid and great expansion of production. The most spectacular increase was made in grain, for this was facilitated most of all by machinery. (In the fifty year period, 1860–1910, the production of barley increased tenfold, reflecting the development of the brewing industries; that of oats sixfold, most of which went to feed the multiplying horses; that of wheat fourfold, which served for human consumption, either at home or abroad; that of corn trebled, keeping pace with the expansion of beef and hog production. All this was far in excess of the growth of population during this period.) The production of cereals was the most important branch of agriculture in the United States, representing more than half the total value of the crops raised and requiring the use of nearly half of all the improved farm land. (There were eight cereal crops which were grown in considerable quantities, and which were, in order of their importance, corn, wheat, oats, barley, rye, buckwheat, rice, and Kafir corn.) The increase in the production of the first six of these cereals during this period is shown in the following table :

PRODUCTION OF CEREALS, 1860–1910 (In millions of bushels)						
<i>Year</i>	<i>Corn</i>	<i>Wheat</i>	<i>Oats</i>	<i>Barley</i>	<i>Rye</i>	<i>Buckwheat</i>
1860	838.8	173.1	172.6	15.8	15.5	17.5
1870	760.9	287.7	282.1	29.7	16.6	10.3
1880	1,754.6	459.4	407.8	43.9	19.8	11.8
1890	2,122.3	468.3	809.2	78.3	23.6	9.1
1900	2,666.3	658.5	943.3	119.6	25.5	11.0
1910	2,552.1	683.3	1,007.1	173.3	29.5	14.8

(It is difficult to say how much of this increased production was due to machinery and how much to the larger acreage

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under cultivation, to better methods of cultivation, to the use of fertilizers, better seeds, crop rotation, and other factors.) During the greater part of this period most of the gain came from opening up new land, especially in Minnesota, the Dakotas, Nebraska, Kansas, Texas, and Oklahoma.

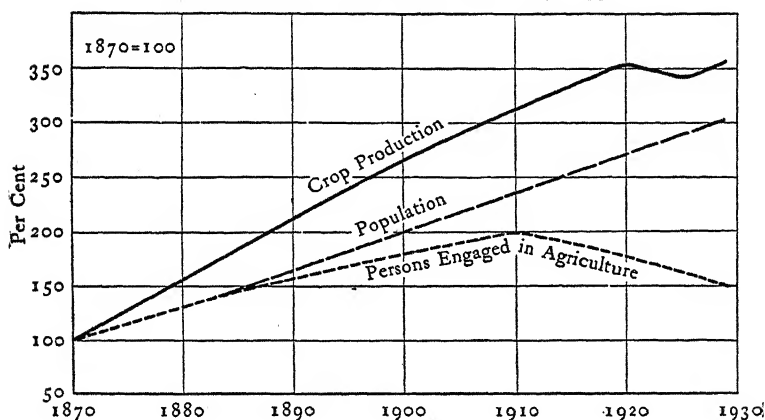
An interesting investigation, made some years ago by the Department of Labor, tried to determine the contribution of machinery. The amount of man-labor requisite for producing forty bushels of yellow corn, husked, leaving the stalks in the field, was just under 39 hours by the hand methods of 1855 and slightly over 15 hours by the machine methods of 1894. To produce twenty bushels of wheat required 61 hours in 1830 and 3 hours in 1896, and to harvest one ton of timothy hay required 21 hours in 1850 but slightly less than 4 hours in 1895. At the same time the cost was reduced from \$16.34 to \$6.62 in the case of corn, from \$4.00 to \$1.12 for wheat, and from \$1.92 to \$0.63 for hay. (These improvements reduced the man-power needed for production.) Or, to put it the other way, a given amount of man-power, with the aid of machinery, was able to produce many times as much from the land as previously. American agriculture differed markedly from current European practice which endeavored to increase the yield per acre; in this country, where land was plenty and capital available, the aim was a large output per worker. (It would have been impossible to plant, cultivate, and harvest the crops of 1910 without the aid of machinery.) At the same time the crops obtained were of better quality, for hay, corn, and small grains could be harvested quickly without injury or waste, while the work of threshing wheat or ginning cotton was done in cleaner fashion.

Demand for farm products.—Production is usually carried on in response to economic demand, but in the United States during this period the lure of a free farm rather than the profits to be derived from the sale of its produce was the determining factor that led to the settlement and cultivation of the land. (If agriculture had been in the self-sufficing stage it is conceivable, though not probable, that each homesteader might have practiced subsistence farming and consumed what he produced. But the homesteader needed live-

stock, farm equipment, clothing, and other supplies for which he must pay cash, or its equivalent in the yield from his farm. He therefore carried on commercial farming, that is, he grew cash crops for the market, and by this fact he entered into the complex and interdependent economy of national and international exchange. His position became dependent upon market and price fluctuations which affected his profits even more than the weather did his production.

This expansion of production involved the partial disorganization of agriculture in the eastern states and dissatisfaction in the West itself. So eager were the settlers to acquire land on such favorable terms that the taking up of farms proceeded more rapidly than was justified by the eco-

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nomic demand for the products they raised. (There was thus a great over-production, especially of wheat and cotton, and prices were greatly depressed.) (In many cases, perhaps the majority, crops were grown at a loss, the rise in the value of the land, originally free, being counted as the real reward. But the term "over-production" is meaningless except in relation to demand.) It is therefore necessary to ascertain if possible whether the demand for American agricultural products was keeping pace with the output.

(The demand for these products was domestic and foreign. It is difficult to determine accurately the domestic demand

1910/10

for American farm products during this period, but the growth of population furnishes a rough measure. The accompanying graph (shows that crop production proceeded much more rapidly than population.) Assuming that production was adequate to home needs in 1870 and that no marked changes in consumption habits had occurred in the interval, the conclusion seems justified that the production of agricultural foodstuffs and raw materials was in excess of the domestic demand.

(The foreign demand was more capricious and its fluctuations affected adversely our export crops.) The exportation of bread-stuffs from the United States had already begun before the Civil War, but during that struggle it grew enormously, partly because of the cutting off of the southern market and partly because of a series of crop failures in Europe. (For a time after the Civil War there continued to be an eager demand in Europe for our products, especially wheat and cotton,) and it seemed that a satisfactory outlet for the surplus over domestic requirements had been found. (The exports of wheat increased up to about 1885, but after that remained relatively stationary until World War I.) The reasons for this lack of growth were several: after the Franco-Prussian War Europe enjoyed a long period of peace and developed and protected by high tariff duties her own agriculture; other producing areas closer at hand, like southern Russia, were penetrated by railways and sent their products to this market. In the case of cotton the opening of the Suez Canal in 1869 brought Indian cotton closer to European textile mills and increased the competition of that staple. The price fell disastrously, and in spite of—or because of—a great increase in exports the cotton grower actually received fewer dollars for greater amounts.

(Agricultural discontent.— Another result of the large agricultural surplus which was being produced was a disastrous fall in prices and consequent discontent among the farmers. Prices of agricultural products in general declined from 1866 to about 1897; they then rose more or less rapidly to 1910; in the case of many products there was a period of stability from 1910 to 1914. The demand for staple agricultural foodstuffs does not expand rapidly because

of the limited capacity of the human stomach, and is therefore inelastic; the demand for cotton expanded, but supply outran it.) Consequently, the larger production could be sold only at lower prices. Between 1867 and 1878 the gold price of corn fell from 57 cents a bushel to 32 cents, that of wheat from \$1.45 to 78 cents a bushel, while that of cotton fell from 30 cents a pound (in 1866) to 8 cents; in 1894 the prices of the three articles were, respectively, 41 cents, 67 cents, and 7 cents. If currency prices were taken, the decline would be much greater. Many of the farmers who had bought land or equipment while prices were high, perhaps giving a mortgage on their farms, were now faced by ruin and the loss of their land. It must not be forgotten that many of these farmers hoped to profit by the rise in value of their land as well as from the sale of their produce. Seeking for the causes of their misfortunes they fastened the blame on the currency legislation, the bankers, the railroads and other monopolies, the tariff, taxation, and other factors which seemed to them to be responsible for their plight.

(After the Civil War Congress pursued a policy of currency contraction which meant a fall in prices from the dizzy heights of the war inflation.) Since the farmer was a producer and a debtor he was adversely affected by lower prices and believed that one cure for his economic ills would be the renewed inflation of the currency and higher prices. Needing capital to equip and stock his farm if not to buy it, the farmer was accustomed to borrow from the banks or from eastern capitalists; as prices of his products fell he was frequently unable to meet the interest payments and had his mortgages foreclosed. The bankers and the capitalists constituted for him a vague "money power" which he distrusted and hated. Even if he succeeded in holding onto his land and in meeting his obligations the western farmer was convinced that the profits on his grain and other products were absorbed by high railroad charges or by middlemen who stood between him and the consumer. He therefore demanded lower railroad rates and a reduction of handling charges. (The tariff raised the prices of the articles which the farmer bought, but did not help him obtain a better market for the things which he sold. And finally he felt

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aggrieved because of the high and unequal taxes and the waste and corruption in government circles.)

The Granger movement was the dissatisfied farmers' first organized effort to remedy these various ills by independent political action. This astonishing society had its origin in the formation by O. H. Kelly in 1867 of the "Patrons of Husbandry," which had for its primary purpose the improvement of farming and of the social and economic position of farmers. By 1874 it had nearly 15,000 local granges and 1,500,000 members. As a means to economic betterment it sought to eliminate some of the middlemen's high charges by co-operative buying and selling, and to reduce railroad charges by obtaining legislation prescribing lower rates. The only outlet for the large agricultural surplus seemed to be in foreign markets, and these could not be reached by the western farmer because the railroad charges absorbed all his profits. High and discriminating railroad rates therefore constituted a major grievance of the farmer. The so-called Granger laws passed by Illinois, Iowa, Wisconsin, and Minnesota were intended to establish uniform and reasonable rates for transporting and warehousing grain and other products, and to require the publication of rate schedules. Although the railroads at first refused to obey these laws, the federal Supreme Court in 1877 in the warehouse case of *Munn v. Illinois*⁴ upheld their constitutionality and the power of the state to regulate the charges made by a common carrier. The real gains to the public from these decisions came later, for as a result of the panic in 1873 two-fifths of the railroads of the country were in the hands of receivers, and the immediate problem was not low rates but rates that would permit the roads to survive.

The next step was the formation in 1876 of the Greenback Party, which demanded a repeal of the resumption act, the abolition of bank-notes, and the substitution therefor of legal tender paper money issued directly by the government. Many of the farmers were attracted to this movement, which promised higher prices by inflating the currency; they believed with Solon Chase of Maine, who cried, "Inflate the currency, and you raise the price of my steers and at the same time pay

⁴ See p. 611 for a fuller discussion.

the public debt." Checked by the resumption of specie payments in 1879 the Greenback Party steadily lost ground and disappeared after the election of 1884. The demand for cheap money was not so easily disposed of, however, and it found expression in the Bland-Allison silver act in 1878 and the Sherman silver purchase act of 1890, both of which required the Secretary of the Treasury to purchase each month for coinage into money a certain amount of silver; since this provided for some inflation of the currency, or at least a stoppage of deflation, it found general support among the western farmers.

In the arguments for these acts much emphasis was placed upon the burdens of the farmers. The increase in mortgage indebtedness, it was stated, was greater than the increase of income derived from agriculture; in Kansas 60 per cent of the taxed acreage was under mortgage in 1890, in Nebraska 55 per cent, and in Iowa 47 per cent. Corn was so cheap that it was burned for fuel in many places, and wheat was left unharvested or fed to the stock. To the farmers operating under such conditions the platform of the Peoples' Party made a strong appeal. Formed by the amalgamation of the Farmers' Alliance with several other organizations it nominated a candidate for the presidency as a third party in 1892 and obtained 22 votes in the electoral college. The platform demanded a national currency of greenbacks, free and unlimited coinage of silver, a graduated income tax, postal savings banks, government ownership of monopolies, and other reforms, but it met with only temporary success and disintegrated after 1896. Populism was an exhibition of the old pioneer ideals coupled with insistence upon federal aid in realizing them.

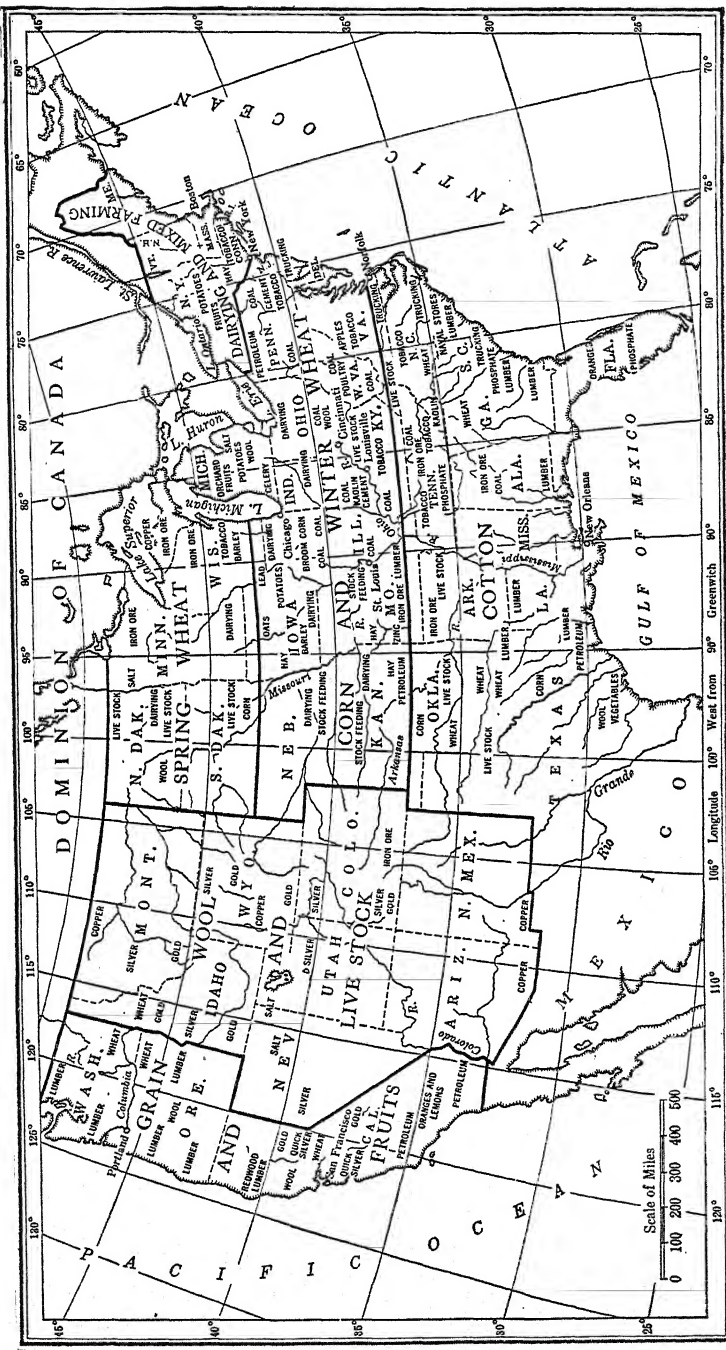
(The next year saw the end of the long period of agricultural depression and from then on the farmers' skies began to brighten somewhat. The great surplus of farm products which had exerted such a depressing influence on prices was absorbed in increasing measure by the rapid growth of the population, so that by 1900 the domestic food requirements nearly equaled the capacity of the country, under existing methods, to produce the needed food supply. For the first decade and a half of the twentieth century American farmers

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enjoyed one of the most prosperous periods in their history. Our agricultural exports declined down to 1914; since we had less to spare for our neighbors in other parts of the world, the exports of wheat, corn, meat, dairy products, and other foodstuffs all fell off. Domestic supply and domestic demand were now finally in equilibrium on a higher standard of living. On the other hand, the increasing demand for agricultural produce could no longer be so easily supplied as formerly by merely extending the cultivated area westward. The practical exhaustion of the supply of good arable land in our public domain closed that avenue for agricultural enterprise.)

Regional specialization.—Another readjustment which created problems for American farmers during this period was the constant shifting of areas of production. There was going on an experimental process of land utilization, which was attended by many mistakes and much waste of labor and capital, but which ultimately led to settled regional specialization. The period before 1860 had witnessed a territorial division of labor which had assigned different crops and industries to different sections of the country, resulting in a vigorous internal trade. The same process continued after that time, concentrating certain great staples in the regions best adapted to them, so that it was possible to speak of the corn belt, the wheat belt, the cotton belt, and other similar areas. There was a steady change from self-sufficing to commercial farming. The production of staple crops on a large scale was made possible by improved farm machinery, enlarged transportation facilities, and ready access to markets; this specialization in turn stimulated the invention and application of machinery and the development of large scale methods. Since each section of the country was differently affected by the changes which took place, it is necessary to discuss separately each of the major divisions of the country. The impossibility of making broad generalizations for the whole country is further shown by the fact that there were, according to the census bureau, fourteen distinct types of occupation in agriculture in the United States.

The East.—As New England and the Middle Atlantic states became more industrial, agriculture tended to become



REGIONAL DISTRIBUTION OF PRODUCTS IN THE UNITED STATES

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less important and the rural population declined. Cereal production and livestock-raising all but disappeared, and their place was taken by dairying, vegetable and fruit-growing, and market gardening. Nearly half of all the farms in this section were dairy farms. Much of the poorer land, which probably should never have been cropped, gradually reverted to forest and pasture use: thus, in New England between 1860 and 1910 over 5,000,000 acres went out of cultivation.) The change was similar to that which occurred in Great Britain, where grazing was being substituted for husbandry, and was brought about by much the same causes, primarily the competition of cheaper food-producing regions. (There was an increase in the size of the average farm, which was generally operated by its owner.)

(The South.—The large plantation system, which was characteristic of the South before the Civil War, was abruptly changed by the outcome of that struggle. The war not only deprived the planter of his slaves as property, but frequently resulted in the destruction of buildings, tools, cattle, and other capital. The high price of cotton, however—43 cents a pound in 1865 and 30 cents in 1866—encouraged the planters to revive its production. Many borrowed the necessary capital, thus introducing on a large scale the system of agricultural credit which was for long so characteristic of southern agriculture, and proceeded to raise cotton with hired labor. This had two unfortunate results: (1) there was an over-production of cotton, causing a rapid fall in the price; (2) it led to a revival of the old one-crop plantation system, with its concentration on cotton.)

The planters who undertook the growing of cotton were at once confronted with a serious labor problem. How could they induce the freedmen to work? At first they adopted the wage system in vogue wherever men were hired to work—a weekly wage for a specified number of hours of labor. The wage system which was thus inaugurated was, however, found to be utterly unsatisfactory, as the freedmen were quite irresponsible. The so-called “standing wage” system was next devised, according to which the Negroes were paid their wages monthly, semi-annually, or even annually, in order to keep them at their tasks. But the payment of all

or a part of their earnings was a signal for wholesale desertion by the freedmen, who resented the control of the planters and had not yet learned habits of voluntary industry. The character of the labor and the falling price of cotton, in addition to the burden of over-taxation under the carpet-bag governments, caused the ruin of many planters, and vast areas of land went out of cultivation. "Plantations that had brought from \$100,000 to \$150,000 before the war and even since, were sold at \$6000 or \$10,000 or hung on the hands of the planter and his factor at any price. The ruin seemed to be universal and complete, and the old plantation system, it then seemed, had perished utterly and forever."⁵ The total value of farming lands in the South declined over 48 per cent between 1860 and 1870.

An era of small farms followed the failure of the large plantation system under free Negro labor, and the large landholdings were broken up to suit small purchasers. Many of the white yeomen and a few Negroes purchased farms of ten to twelve acres, and proceeded to raise cotton on their own account. In Mississippi, for example, there were only 412 farms of less than 10 acres in 1867, but 10,003 in 1870. The number of small farms of less than 100 acres increased 55 per cent in the South during the decade 1860-70, while the average size of farms decreased from 402 acres to 230 acres, and to 153 acres in 1880. (Nearly 40 per cent of the laborers engaged in the cultivation of cotton by 1876 were whites, as against about 11 per cent before the war. In fact, it was mainly the poorer whites who took over the land relinquished by the large ante-bellum planters and began the process of regenerating the South.

Since the Negroes would not work for wages and were unable to purchase land, an effort was next made to have them farm the cotton lands on shares, and this "cropping" system soon became the all but universal method. For white tenants the crop was usually divided into three parts, of which one was remuneration for the land, one for labor, and one for implements, animals, seed, fertilizer, and the like; but Negroes usually obtained a more favorable bargain, and if they furnished the labor and shared the expense of fertilizer, bal-

⁵ H. W. Grady, in *Harper's Magazine*, Vol. 53, 721.

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ing, ginning, etc., they received half the crop. (The system of cash rents was never widespread. Under this system, by which the Negro tenant had more independence, crops became smaller because he worked fewer hours and with less intelligence.) Not until 1879 did the cotton crop (2404 million pounds) pass the yield (2155 million pounds) of 1860, the last uninterrupted year of production under slavery.

A characteristic feature of cotton-growing in the South for a generation after the war was the system of agricultural credit. Although the method of advancing money and supplies on growing crops was practiced in the South before 1860, the necessities of the planters and the small tenants after that time made its use very general. The large planters had been accustomed to purchase supplies on credit and to pay off their debts with the proceeds of the next crop. After the breaking up of the plantation system and the rise of a small tenant and freehold farming class the system was extended to meet the new conditions. The white yeoman farmers and the Negro tenants were alike without working capital and were compelled to borrow money or to buy the needed food supplies, seed, and tools on credit, giving a mortgage or lien on the growing crop as security. The lender was usually the merchant and country storekeeper, who was personally familiar with the small borrower and who could, moreover, exercise constant supervision over the crop. While economically necessary at first as a means of securing the needed capital, this practice of agricultural credit soon resulted in a system of peonage of the debtor farmer to the merchant who became his creditor, under which the debtor was kept almost in a state of serfdom, working for his creditor until his debts were paid. All supplies must be purchased through the creditor, and the crops must be sold through him, on both of which transactions lucrative commissions were charged in addition to frequently usurious rates of interest.

This system had certain undesirable effects. Since cotton was the most marketable crop and would always sell for cash, the lender insisted that the farmer concentrate his efforts upon cotton-growing. His cry for cotton, and more cotton, led to a constant increase in the acreage and production of

this staple, in the face of an almost steady decline in the price. In the second place, since the farmer was compelled to buy all his supplies from the lender's store, he was discouraged from growing his own corn or bacon since this would diminish his purchases. There was a steady decrease in the production of corn and wheat between 1865 and 1890 in all the southern states except Texas. As Hammond put it, "The raising of corn would not only give a less marketable crop into the hands of the merchant, but it would eventually lose him his customers, for the raising of his own supplies would release the farmer from the necessity of doing business on a credit basis." Diversification of farming and even rotation of crops were thus prevented in the South.

(By 1879 cotton-growing had practically recovered from the losses of the Civil War and the injuries of reconstruction, and production never again fell below the record of 1860. Few changes took place during the next twenty years, though improvements in methods of culture and cheaper transportation reduced somewhat the costs of production. By the beginning of the twentieth century prices began to improve, due to the increasing demand for the staple on the part of the expanding textile manufactures. The high price of cotton during the next few years was of great importance in lifting the cotton planter out of the slough of debt and dependence upon store credit.) The crop lien almost disappeared, deposits in the banks increased, and the farmers enlarged their purchases of farm machinery and fertilizer. A factor in the elimination of the crop lien and of store credit was the growth of small banks with a minimum capital of \$25,000 which were authorized by the national banking law in 1900; the cotton planter was financed by these banks at reasonable rates instead of by the country storekeeper.

The Middle West.—The rapid settlement of the Middle West and the consequent expansion of grain production have already been described. (Involved in these developments was a steady westward movement of agriculture, which transferred the center of production of most of the staples from the East to the Middle or Far West. This transition was the most marked characteristic of the West throughout the larger part of this period. By 1890, however, practically

all the arable land in the Mississippi Valley had been occupied, and thereafter agriculture tended to adjust itself to more settled conditions and to assume what may prove to be its permanent form. The migrating staples settled down in comparatively fixed habitats.

Wheat has always been a frontier crop, since it stands transportation well and can be grown profitably by extensive methods. The center of production had moved from Massachusetts in colonial times to central New York in the thirties and by 1860 to Illinois. The wheat grown during this long period had been soft winter wheat. A reference to the map on page 511 shows that the domain of this species stretches from Pennsylvania to Nebraska and Kansas. But in the two latter states the severe winters and scanty rainfall caused discouraging crop failures of the ordinary soft wheat. In 1873 the Bureau of Plant Industry introduced hard red winter wheat from the Crimea, which found a congenial home in these western states and soon made Kansas the leading producer of winter wheat. But the settlers in Wisconsin, Minnesota, and the Dakotas could not grow winter wheat, which was winter-killed in their severe climate, and turned to spring wheat. A cold and drought resistant variety, durum wheat, was imported from Russia in 1898, and succeeded well in those states, which thereafter became the center of spring wheat production.

Corn has always been our most important cereal crop, representing about three-quarters of the total world production and over half of all the cereals grown in the United States. Since little of it (10 per cent) enters directly into human consumption, but is fed to stock and comes to market in the form of beef and pork, dairy products, and poultry, it does not attract such general attention as does wheat. Nor is it an export crop like wheat, only about 5 per cent entering into the world markets. Moreover, since it can be grown nearly everywhere, it has never shown the high degree of regional localization exhibited by some other products. It is nevertheless possible to point to the corn belt, which was taking form during this period. In 1860 the three leading states were Illinois, Ohio, and Missouri, but by 1910 the center of corn production had moved farther westward and

Iowa, Illinois, and Nebraska constituted the leading trinity of this cereal.

The raising of beef cattle, hogs, and poultry, based for the most part upon the use of corn, also developed in this section. Of these the most important was the production of pork and hog products, of which the United States contributed about half the world's supply. It was no mere coincidence that the twelve states of the north central division, which grew almost three-quarters of the corn, should also produce nearly two-thirds of the hogs, for corn was the chief food used in fattening these animals for market. The raising of pork came to be almost a by-product of the beef industry, owing to the practice of letting hogs fatten on the droppings of corn-fed cattle. There was a strong concentration of this industry in Iowa, Illinois, Missouri, Indiana, and Nebraska, and it was in these states that the great slaughterhouses and meat-packing establishments were found, notably in the cities of Chicago, Kansas City, and Omaha.

The process of converting this livestock into food for human consumption began its wonderful growth during this period. The invention of the refrigerator car, which made its first shipment of meat in 1869 from Chicago to New York, gave a wonderful impetus to the slaughtering and meat-packing industries. Pork-packing, which had been done mainly in the winter up to this time, was now possible during the summer; the number of hogs killed grew from less than 1,000,000 in 1860 to over 40,000,000 in 1910. The dressed beef trade, too, was given a stimulus by the introduction of the refrigerating process. The export of fresh beef dates from 1876, though the exportation of live cattle had already begun in 1870. The total export trade in meat products grew from about \$8,000,000 in 1860 to over \$90,000,000 in 1910. The total value of the products in the slaughtering and meat-packing industries grew enormously, from \$29,000,000 in 1860, to \$3,435,000,000 in 1914, at which time it was the nation's leading industry.

The dairy industry, which is quite distinct from the livestock industry, followed the westward movement of the great staple crops. In 1860 dairying was carried on primarily in the eastern states, with New York as the leader and Ohio as

the western outpost, but by 1910 the center of the industry was in the Middle West, though New York still ranked first.) This industry was greatly stimulated by the urban concentration of the population with its heavy demand for milk and other dairy products.

(The dairy industry was also revolutionized by the introduction of factory methods in the making of butter and cheese, although a beginning had been made before 1860.) Cheese-making developed rapidly under the factory system during the sixties and seventies, and by 1880 more than four-fifths of the cheese produced in the United States was made in factories. There were natural limits to the expansion of the industry, due in part to the relatively small domestic consumption of cheese, and in part to the lack of a foreign demand for the American product.

(After 1880 butter-making displaced cheese-making as the leading dairy industry.) At that time most of the butter was still made on the farms, and the common form of churn in use for butter-making was aptly described by a child's riddle: "Big at the bottom and small at the top, a thing in the middle goes flippety-flop." (A great stimulus to the development of factory methods in butter-making was given by the invention of the Babcock test for determining the butter-fat of milk, and of the centrifugal cream separator for extracting cream without having to "set" the milk and wait for the cream to rise. Still more important as an explanation of the development of the butter industry was the expanding demand on the part of the American people, who are great bread eaters, and who, unlike the French and the Italians, eat butter on their bread. The American dairy industry therefore specialized in butter-making rather than in cheese-making, in contrast to European countries.) Since the farmers' milk and cream were now paid for according to quality, that is, the amount of butter-fat they contained, an impetus was given to the breeding of cows for milk production, which gave wonderful results; the perfecting of the silo, whereby good feed was provided for the animals during the winter, increased the winter supply of milk. (Still another branch of the industry was the making of condensed milk, which grew enormously after its introduction in 1860, and still later of evaporated

milk.) The center of the dairy industry came to be located in the corn belt, Wisconsin becoming the leading dairy state, and Elgin, Illinois, becoming one of the greatest butter markets in the world.

The Far West.—West of the 100th meridian to the Rocky Mountains stretches a region where the rainfall is insufficient for ordinary agriculture, being less than 20 inches per annum. Here the chief industry is grazing. Cattle-raising has always been a frontier industry in the United States, keeping somewhat in advance of pioneer farming, whether in the colonial forests of North Carolina, later in the Middle West, or since 1860 on the ranches of the Far West. The so-called "native" cattle, probably the descendants of Spanish cattle brought over to Mexico by Cortez, had multiplied rapidly in the Southwest, and after the Civil War an outlet for them was sought in the North. (Texas cattle had been driven to the corn fields of Illinois as early as 1857, but the movement was checked by the war.) In 1866 the long drives to the north began again, but this time to the northern ranges on the public domain. It had been accidentally discovered the previous year that the dried buffalo grass on these semi-arid plains provided excellent winter forage for cattle. (Texas cattle driven north and fattened on the open ranges gained more rapidly in weight than if they remained in Texas, and moreover the beef was of better quality. The cattlemen, meanwhile, had simply utilized the unappropriated public domain for their purpose without formality of grant or lease, until they had come to regard the vast unfenced area of semi-arid plain from Texas to Canada as their special domain.

(By 1870 a well-defined cattle trail had been marked out over which an average of nearly 300,000 cattle were driven northward annually from the breeding grounds of Texas. A territorial division of labor resulted, by which Texas became the breeding ground and northern ranges matured and prepared the steers for market.) The points where the cattle trail crossed the transcontinental railroads became important cattle markets and shipping points; such were Newton and Abilene, Kansas, and later Dodge City, Kansas, and Ogallala, Nebraska. (Between 1866 and 1884, according to

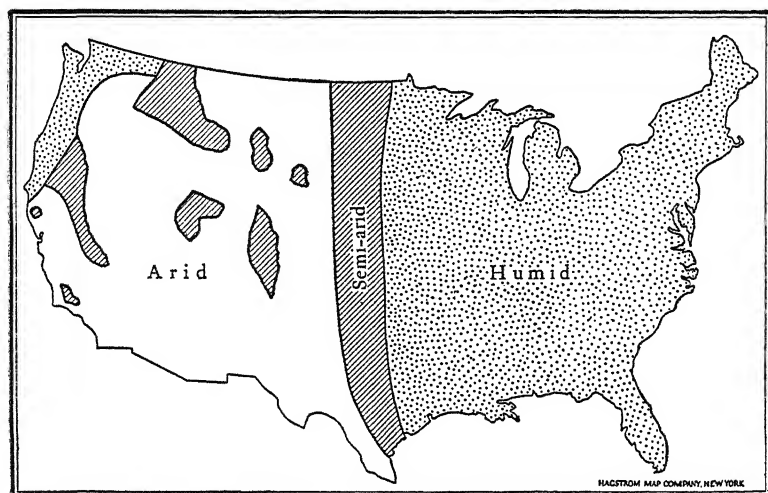
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Joseph Nimmo, 5,250,000 cattle were driven northward from Texas.

After 1885 the importance of the cattle trail began to decline, as a result of several factors.) Homesteading farmers invaded the open ranges and fenced in their farms with barbed wire, and, although the cattlemen resisted the "nesters," their advance could not be stayed. The railroads were built into the heart of the cattle country and transported the cattle direct to market or to the corn-growing regions where they were fattened. Minor causes were the quarantine laws against Texas cattle, and the terrible winters of 1886 and 1887 which almost destroyed the herds. The enclosed cattle range now replaced the open range. In the meantime the introduction of improved shorthorns and Herefords instead of the lean Texas longhorns produced a more solid type of beef cattle. Later the growth of city and apartment-house life and the decreased consumption of meat produced a demand for smaller cuts, and the cattle industry responded by the production of "baby beef" which were quickly matured and fattened. These were now raised on the smaller farms of the corn belt, as the best ranges were fenced in and planted; on the poorer ranges sheep gradually replaced beef cattle.

With the passing of the long cattle drives and the great ranches on the free range of the unfenced public domain, a picturesque feature of the American frontier disappeared. The romantic aspects of the annual round-ups, the branding of the young steers, and the picturesque cowboys have been given more attention in history and fiction than their economic importance justified. It was a transient episode which was brought to an end by the inexorable pressure of homesteading farmers.

(Farming in the arid region.—Between the 100th meridian and the Rocky Mountains lie some 300,000,000 acres of fertile soil, where the scanty rainfall—from 10 to 20 inches per annum—makes agriculture extremely precarious.) The vast extent of this region is made apparent on the map opposite. With the extension of the population and the taking up of all the available public lands in the moist regions, the problem of reclaiming the arid plains of the western states began to attract attention. Although irriga-



[After Newell]

HUMID, SEMI-ARID, AND ARID REGIONS OF THE UNITED STATES

tion had been practiced in America from time immemorial by the Indians, only a few hundred acres were being irrigated when, in 1847, the Mormons began their experiments in Utah. By 1870 there may have been 20,000 acres under irrigation in the United States, but the next four decades brought the irrigated acreage to 14,433,000. Most of the earlier work was done by private initiative, but in 1902 Congress passed the Reclamation Act, which provided for the building of irrigation works out of the proceeds of the sales of public lands in the arid region. The results were not altogether satisfactory, while the costs were enormous. In California, on the other hand, where irrigation was probably carried on most scientifically under systems of close co-operation by private owners, the returns were fairly profitable.

In the debatable strip of land between the arid and the moist regions, known as the semi-arid district, another method of agriculture was introduced. This was dry farming, so-called. By disking and plowing the land after the harvest, and then after each rain, keeping down the weeds, and tilling during alternate summers without planting a crop, evaporation is prevented and the moisture from two years is stored in the ground and utilized for one crop. Dry

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farming made available for agriculture some millions of acres which had seemed hopelessly arid. But the terrific erosion of the soil which resulted when the protective grass was removed,⁶ showed that a bad mistake in land utilization was made when this land was put under the plow.

Farm tenancy.—Democratic land ownership had always been the boast of the American republic, and it was assumed that the Homestead Act had provided every settler with a farm of his own. It was something of a shock therefore when, in 1880, the statistics of farm ownership were for the first time published in the census and it was revealed that one-quarter (25.5 per cent) of the farms were in the hands of tenants. After that the proportion grew steadily, to 28.4 per cent in 1890, 35.3 in 1900 and 37.9 in 1910, and alarm was expressed that our democratic conditions of land ownership were giving way to a system of peasant tenantry, like that in Europe. A more optimistic interpretation has, however, been made, and the presence of the tenant class has been viewed as an intermediate step in the agricultural ladder. Tenancy indicated the endeavor of ambitious farm laborers and persons of small means to make themselves independent rather than the fall of unsuccessful owners to the rank of tenants. This was shown by the steady growth in the number of farm owners, more rapid even than the increase in the agricultural population. Most of the tenant farmers were, after all, to be found in the South, where the abolition of slavery had let loose a flood of necessitous Negroes who could become only wage-earners or tenants. Since the former owners were unable to re-establish their plantations with paid labor these were broken up and rented to small cash or share tenants.

The division of the plantations of the South and of the "bonanza" farms of the West showed the extension of the small farm system rather than the decline of ownership; a large proportion of the tenant farms in 1900 were under 20 acres. A study of the ages of operating owners, tenants, and laborers strengthens this conclusion. Almost 90 per cent of

⁶ In May, 1934, a dust-storm swept up nearly half a billion tons of soil from the states of Nebraska and South Dakota and scattered it over the eastern states and even on vessels far out in the Atlantic.

the farm laborers were under 35 years of age, 67 per cent of the tenants were under 45, while nearly 60 per cent of the owners were over 45 years of age. There was thus, with advancing age, a steady rise from the condition of laborer to tenant and finally to that of owner. Nor did the existence of mortgage indebtedness warrant any gloomy foreboding; taken in connection with the other facts it may be held to represent the struggle of the former tenant to purchase an equity in the land he tilled, or of the small owner to provide himself with the necessary capital for improvements.

Farm laborers constituted nearly half the agricultural labor force, making up almost 48 per cent of those engaged in agricultural pursuits in 1880, and remaining on this level until 1910. The agricultural wage-earners were divided about equally between a permanent resident group, most of whom probably expected eventually to become independent farmers, and a class of temporary seasonal workers, such as the harvest hands in the western wheat fields, gatherers of fruit in California, of vegetables in New York, and of cranberries in Massachusetts.

(**Agricultural research.**—The year 1862 was an important one in the annals of American agriculture, for not merely was the Homestead Act passed, but the Department of Agriculture was established and the Morrill Act was enacted.) The Department was directed “to acquire and diffuse among the people of the United States useful information on subjects connected with agriculture in the most general and comprehensive sense of the word, and to procure, propagate, and distribute among the people new and valuable seeds.” In pursuance of this latter object (the bureau of plant industry sent men to every quarter of the globe to search for new plants and to determine whether they were practicable and desirable for introduction into the United States. During the single year 1904, for instance, nearly fifteen hundred new kinds of seeds and plants were introduced into this country, including species especially adapted to the arid regions. (Other bureaus were gradually established which performed equally valuable service, such as those of forestry, weather, entomology, animal industry, chemistry, and the more recent bureaus of agricultural economics and of markets.

The Morrill Act established in each state a "land-grant" college to teach "such branches of learning as are related to agriculture and the mechanic arts." For the endowment of these institutions each state was given a grant of 30,000 acres of public land for each Senator and Representative in Congress. From this beginning sprang most of the colleges of agriculture and of engineering in the state universities, which were generously supported by additional state appropriations. It was soon discovered, however, that book learning alone did not make dirt farmers, so in 1887 Congress provided for the establishment of agricultural experiment stations. There had been state stations before this, but now they were co-ordinated, their number increased, and their activities enlarged. By them science was applied to agricultural problems, experiments carried on, and the results disseminated among the farmers. Their influence was far-reaching, and became important. It was estimated that the North Dakota station added to the wealth of that state ten million dollars a year for a decade by the better development of cereals. Most of these stations were situated at the agricultural colleges, which were soon to be found in every state and territory in the Union.

Conclusion.—In no branch of enterprise were adjustments so numerous and drastic as in agriculture between 1860 and 1914. The American farmer since colonial days had been and for the most part still was a "cheap land" farmer, who economized labor but used land prodigally, always ready to desert old lands for new. This process continued until practically all the easily available land in the country was taken up. With the cessation of free homesteading on the public domain, however, there came to be increasing resort to careful and exact farming. The necessity for more intensive cultivation involved changes in agricultural practice and methods, and the transition was not easily made by those trained under laxer conditions. The unduly rapid development of new land brought to the front problems of marketing, which were aggravated by technical changes in agricultural methods, shifts in areas of production, price fluctuations, and other factors, some of which lay quite outside the control of the individual farmer. Restless under

conditions of falling prices and of change he sought relief by various methods, some political and others non-political, but none very effective.

Down to 1880 agriculture was the principal source of income in the United States, but each succeeding census report showed larger values of manufactured articles than of agricultural products. This transition of the United States from a predominantly agricultural nation to a predominantly industrial one, which was completed in this period, was the most outstanding fact to be noted. (In 1820 five-sixths (83.1 per cent) of the population was engaged in agriculture and one-sixth in manufacture, trade, transportation, and professional vocations; in 1910 the two groups were one-third (33.0 per cent) and two-thirds.

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CHAPTER XXI

MANUFACTURES AND INDUSTRIAL COMBINATIONS

The growth of manufactures.—The factory system had already obtained a firm foothold in the United States before 1850, but its great expansion came after that date.) “Until about 1850,” stated the census report,¹ “the bulk of general manufacturing done in the United States was carried on in the shop and the household, by the labor of the family or individual proprietors, with apprentice assistants, as contrasted with the present system of factory labor, compensated by wages, and assisted by power.” (But during the decade ending with 1860 the country made the most remarkable industrial progress in its history.) The textile and iron industries grew two-thirds. We probably already led all other nations in the use of interchangeable mechanism and in the application of automatic machinery to the production of standard parts. (Factory methods of mechanical production had been applied to the making of firearms, and to the manufacture of clocks and watches, sewing machines, textile machinery, and agricultural implements. The development thus begun was greatly stimulated in the North by the events of the Civil War,) and the country’s manufactures emerged from that struggle with expanded plant capacity and strengthened resources. This war did not, like that of 1812, call into being new industries or radically change prevailing methods of production, but it intensified certain tendencies already in operation.

The most striking feature in the industrial development of the United States has been the enormous growth of manufactures, both absolutely and relatively to other branches of industry. Between 1850 and 1910 the population of the country quadrupled, and the products of agriculture trebled

¹ Twelfth Census (1900), Vol. VII, p. liii.

in value ; but in the same period manufactures showed an increase of seven times in the number of wage-earners and of twenty times in the value of the product.) The growth of manufactures as a whole is shown in the following statistical table, though the remarkable diversity of industries and increase in the volume of products is not revealed by the statistics of value :

GROWTH OF MANUFACTURES, 1849-1909*
(Values in millions of dollars)

<i>Year</i>	<i>Number of establishments</i>	<i>Average number of wage-earners</i>	<i>Wages</i>	<i>Cost of materials used</i>	<i>Value of products</i>
1849	123,025	958,079	\$236.7	\$555.1	\$1,019.1
1859	140,435	1,311,246	378.8	1,031.6	1,885.8
1869	252,148	2,053,996	620.5	1,991.0	4,232.3
1879	253,852	2,732,595	947.9	3,397.0	5,369.5
1889	355,405	4,251,613	1,891.2	5,162.0	9,372.4
1899	512,191	5,316,862	2,320.9	7,344.0	13,014.2
1899	207,514	4,712,763	2,008.3	6,575.8	11,406.9
1909	269,491	6,615,646	3,427.0	12,142.8	20,672.0

* The statistics of manufactures from 1850 to 1900 covered the neighborhood, hand, and building industries, as well as the factory industries; since then they have been confined to factory industries. For 1899 figures compiled on both bases are given.

(This rapid industrial progress transformed the United States from an agricultural and commercial nation to one whose chief interests were manufacturing. Until the decade of the eighties agriculture had been the main source of wealth, but the census of 1890 showed the value of manufactures to be over three times that of the agricultural products. By 1900 the United States was predominantly an industrial nation, with an established factory system, a permanent body of industrial workers, and an economic organization based upon manufacturing. (At the same time the United States outstripped her European rivals in the volume of her manufactured products ; from fourth place in 1860 she achieved first place by 1894, and before World War I produced as much as her three nearest competitors—Great Britain, France, and Germany—combined.

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Demand.—This remarkable expansion in manufactures resulted from the demands of an extending and insatiable market. The sheer growth of population required ever larger quantities of goods to meet their needs. There went on at the same time a steady, if slow improvement in the well-being of the American worker and a consequent increase in his purchasing power. New demands were also quickened, if not called into being, by new methods of advertising and salesmanship, so that the market constantly expanded. As a result of these forces, important new industries were created, such as the manufacture of plumbing, telephones, bicycles, and many other semi-luxuries.

Equally important was the industrial demand of the construction and other industries. The growing population must be housed, water and other utilities be provided for the developing cities, rails and rolling stock be manufactured for the spreading railroad net, factories built and equipped with machinery. In a word, the production of the material equipment of an increasingly mechanized civilization constituted a need whose satisfaction called into being manufactures on a scale hitherto undreamed of.

Causes of growth.—But demand is only one side of the equation; on the other side is supply. American manufacturers during this period showed increasing ability to meet the expanding demands of the domestic market.) In this they were aided by numerous favorable conditions, of which the most important factor was probably the abundance and richness of *natural resources*. (The basic raw materials for practically every branch of manufacturing industry were to be found within the country. This wealth of natural resources determined in large measure the nature and methods of our leading manufacturing industries,) for the most important ones remained, during most of the period, those which carried the raw materials through a few comparatively simple processes. A reference to the table on page 544 shows that the cost of materials used has always made up a large part of the value of the finished products as compared with the changes wrought by the manufacturing process itself.

The close dependence of our leading manufactures upon our primary resources, especially in the early period, is

RANK OF LEADING INDUSTRIES, 1860, 1900, 1914
(Values in millions)

Rank	1860 Industry	Value of products	1900 Industry	Value of products	1914 Industry	Value of products
1	Flour and meal.....	\$248.5	Iron and steel.....	\$804	Slaughtering and meat packing	\$1,652
2	Cotton goods.....	115.7	Slaughtering and meat packing	790	Iron and steel.....	919
3	Lumber, planed and sawed....	104.9	Foundry and machine-shop products	645	Flour and grist mill products...	878
4	Boots and shoes.....	91.8	Lumber and timber products..	567	Foundry and machine shop products	867
5	Iron founding and machinery..	88.6	Flour and grist mill products..	561	Lumber and timber products...	715
6	Clothing, including furnishings	88.0	Clothing, men's.....	415	Cotton goods.....	677
7	Leather, including morocco and patent leather	75.6	Printing and publishing.....	347	Cars and general shop construction	510
8	Woolen goods, including yarn, etc.	65.7	Cotton goods.....	339	Motor vehicles.....	503
9	Liquors.....	56.5	Carpentering.....	316	Boots and shoes.....	502
10	Steam engines.....	46.7	Woolen, worsted and felt goods	297	Printing and publishing.....	496
11	Iron, cast.....	36.6	Boots and shoes.....	261	Bread and bakery products...	492

clearly brought out by the table on page 531. (In 1860 the first four groups were based upon our agricultural and forest wealth ; in 1900 those dependent upon our mineral wealth, which was now being exploited on a grand scale, forged to the front. Not until after World War I was first rank taken by what may be called a pure manufacture,) that is one in which the value of the final product is due primarily to the working up of the raw material into finished forms rather than to the original value of the materials (automobiles).

(The *labor* supply was a most important factor in the growth of industry,) for upon its quantity and quality depended the effective use of the raw materials and capital. (A growing though never adequate supply was furnished by the natural increase of the population, to which was added immigration.) While the population grew from 31,443,000 in 1860 to 91,972,000 in 1910, the immigration increased from an annual average of 259,800 for the decade ending in 1860 to 879,600 for the decade ending in 1910. But the statistics of growth do not tell the whole story, for over half the immigrants were in the productive age-groups between 15 and 45, and therefore were available at once for work.

(More important even than the number of workers was their quality, and in this respect the United States has been fortunate.) The native-born labor possessed the characteristic American qualities of energy, initiative, adaptability, inventiveness, mechanical knack, and similar traits. The foreign-born contributed their strength as unskilled workers, and as skilled artisans and mechanics they have brought to their tasks the careful training, habits of obedience, and knowledge of tools and processes which they learned under the apprentice system of the Old World. American industry profited from these contributions.

(Another factor contributing to our industrial progress was the supplies of *capital* which were available for the development of new manufacturing industries or for the expansion of old ones. Some of this, especially in the first half of the period, came from direct investments or loans on the part of citizens of Great Britain, and to some extent of France, Germany, and Belgium ; but most of it was furnished from domestic savings or from the earnings of the businesses them-

selves. Capital may take the form of buildings, of equipment, of new machines, or of cash ("liquid" capital), but the characteristic feature of American manufacturing has been the use of labor-saving machinery; this form of capital increased after 1860 more rapidly than the number of the wage-earners or the value of the products. (In 1850 one wage-earner, using \$500 worth of capital, was able to turn out \$1000 gross product annually, but in 1910 one wage-earner used \$2000 of capital and produced \$3100 of manufactures.) In other words the relative scarcity of labor compared with the demand for goods, was made up by a resort to the use of labor-saving machinery, and (the expansion of our manufactures was attended by an increase in the number of machines rather than in man-power.

Manufacturers in the United States have always been willing to introduce labor-saving devices and to experiment with new mechanical appliances, while the *inventive genius* of the people has been directed into industrial lines as in no other country. (The explanation of this widespread use of improved machine methods and of invention must be sought first of all in the relative scarcity of labor when compared with the gigantic tasks to be performed in the development of a continent. In the second place, the American people seem to possess a native mechanical skill and inventive genius, the result both of inheritance and environment.) American manufacturers are moreover possessed of a certain venturesome open-mindedness, which gives any new device or method a fair trial. But most of all their profitable introduction has been made possible by the enormous domestic market, which can absorb large amounts of uniform standardized articles, and by the character of the raw materials which must be worked up.

In no branch of mechanical improvements has the genius of the American inventor shown itself more strikingly than in the development of the system of interchangeable parts. Its greatest application probably took place in the sewing-machine, but it revolutionized the manufacture also of ammunition, locomotives and railroad machinery, watches, clocks, and agricultural machinery. Equally important was the standardization of machinery and parts. In the manu-

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ufacture of screws or iron beams, for example, certain dimensions and sizes, which were best adapted for general use, were selected as standard sizes, and these were then turned out in large quantities by automatic machinery. Odd sizes and special designs could generally be obtained only by special order. In this manner cheapness and rapidity in filling an order were secured, while a broken part could be obtained from any firm making or handling the standard sizes. Such a system was not possible until measuring instruments of exceeding accuracy had been invented, but after this was done it spread rapidly.

(An important factor in the development of inventions in any country is the *patent system*, and that of the United States has been undeniably effective in stimulating the inventive genius of its people. One of the unexpected results of the Civil War was the impulse given to the invention and use of machines designed to economize human labor; from 4363 patents in 1860—the high-water mark up to that time—the number rapidly grew to 8874 in 1866.) Writing in 1865, Peto, a keen English observer, remarked, “Mechanical contrivances of every sort are produced to supply the want of human hands. Thus we find America producing a machine even to peel apples; another to beat eggs; a third to clean knives; a fourth to wring clothes;—in fact, human hands have scarcely been engaged in any employment in which some cheap and efficient labor-saving machine does not now to some extent replace them.”

(The number of patents grew to 37,421 in 1909, which was the largest number ever recorded for a single year up to that time. While not all of these applied to the art of manufacturing, they influenced its growth and called into existence a number of new manufacturing industries. The improvements in the telephone, the invention of the typewriter and type-setting machines, of the cash register and of the recording adding machine, of various medicines and serums, of the steel-frame building, electric lighting, and the gasoline engine, serve to suggest some of the numerous points at which the people's lives are affected by the inventions patented during the last generation. Many extensive industries were built up on the basis of patents) or old ones were completely

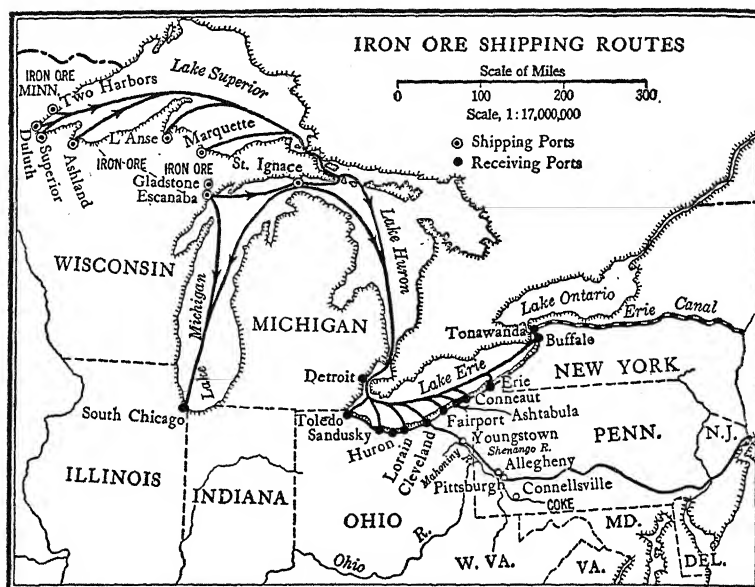
revolutionized ; such were the iron and steel, textile and railway industries, the manufacture of sewing-machines, rubber goods, wood pulp, photography, and type-setting and electrotyping. But the American inventor did not merely modify the methods of making old things ; in many instances he produced absolutely new commodities and devised original ways of manufacturing them.

(*Power* is the fundamental factor in modern industry, for only by its aid can labor-saving machinery and inventions be made available. Consequently, the progress of manufactures in a country and its rank in the scale of present-day civilization can be measured better by the amount of power which is utilized than by the number of workmen employed or even the volume of goods produced. Tested by this standard the United States made great advances during this period. Statistics of amount of power used in industry were collected for the first time in 1870, when it was shown that 2,346,142 horse power were being employed in manufactures, of which about half was generated by water and the other half by steam. By 1900 the number of horse power had grown to 11,300,081, and by 1914 had further increased to 22,291,000.

The widespread system of cheap *transportation* was another important factor in the development of manufactures in the United States. The rivers were utilized only to a slight extent, in striking contrast with the busy streams of Europe, but the traffic on the Great Lakes reached enormous proportions. The cheap transportation afforded by these inland seas brought the iron ore of northern Michigan and Minnesota to meet the coal of southern Ohio, Indiana, and Illinois at a series of iron and steel cities, of which the most important were Cleveland, Gary, and South Chicago. The coastwise shipping also developed, but the railroads were the main arteries of commerce throughout the whole United States. Together these agencies made possible the wide extension of the domestic market and hence regional specialization, mass production, and the expansion of manufacturing.

(Closely connected with this was the *freedom* from restriction of *interstate commerce*, guaranteed by the Constitution. "The mainland of the United States," said a 1900 census report, "is the largest area in the civilized world which is

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thus unrestricted by customs duties, excise taxes, or national prejudice, and its population possesses, because of its great collective wealth, a larger consuming capacity than that of any other nation." The large market within the country permitted the production and sale of immense quantities of standard goods, and hence encouraged large scale methods, the use of expensive and highly specialized machinery, and a territorial division of labor. (Free trade within the United States afforded the American manufacturer an unparalleled opportunity; the rewards for the successful enterprisers were so munificent that they attracted the best talents into industry, and these constantly improved the technical processes and the organization of manufacturing.

Finally, the *tariff* with increasing severity excluded foreign competition, and reserved the domestic market largely for home producers. Protection to particular industries stimulated their growth, but as a single explanation of the phenomenal industrial growth and present pre-eminence of the United States, protection alone is inadequate.) Unless other conditions are favorable, a patent law or a protective

tariff will not cause permanent manufactures to develop. (The really dynamic factor was to be found neither in legislation nor even in the presence of rich natural resources, but rather in the *ability* of America's industrial leaders. Few will dispute the genius of Andrew Carnegie in the domain of steel ; of John D. Rockefeller in oil refining ; of Philip D. Armour in slaughtering and meat-packing ; of Thomas Edison and George M. Westinghouse in the electrical industries ; of J. P. Morgan in finance ; or of Cornelius Vanderbilt in railroading. Probably any other modern generation of Americans would have produced similar captains of industry if given like opportunities, but this particular generation did so beyond any serious doubt. Great organizers and administrators, these men caught a glimpse of the imperial opportunities offered by the expanding American market. The prizes for successful achievement were enormous.

Individualism.—The first part of this period was one of unbridled individualism and of *laissez faire*, in which the fullest scope was given to initiative and enterprise, while the size of the market permitted the development of industries to maximum size. The American manufacturer, railway magnate, and business man were animated not merely by a desire to make money, but also to gain power, and to do big things. Such men used competition to crush their rivals as well as to win markets, to hold down wages as well as to reduce prices. Their methods were often ruthless, frequently tainted by fraud, and only slightly restrained by fear of illegality or social disapproval.

Neither legislation nor commercial morality forbade the use of practices which a later generation has learned to prohibit, but in spite of all excesses the results were magnificent, and excite today a certain grudging admiration. The achievements of the iron and steel industry were cited by Andrew Carnegie as one of the wonders of the world. "Two pounds of ironstone mined upon Lake Superior and transported nine hundred miles to Pittsburgh ; one pound and one-half of coal, mined and manufactured into coke and transported to Pittsburgh ; one-half pound of lime, mined and transported to Pittsburgh ; a small amount of manganese ore mined in Virginia and brought to Pittsburgh — and

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these four pounds of material manufactured into one pound of steel, for which the consumer pays one cent." Compared with this complicated and scientific operation, the deeds of the pyramid builders take their place as a lower order of achievement. But the excesses of individualism and of unrestrained competition produced evils which in time brought their own cure. Industrial combination was the remedy sought by the private capitalist, but the public demanded government regulation. Both policies were in fact pursued.

Concentration of manufacturing in large establishments.—Another feature of American industrial development was the increasing size of the factory. Manufactures showed a striking concentration, especially along certain lines, into a relatively smaller number of establishments. The old-fashioned methods of petty producers with small capital were inadequate to develop the wealth of natural resources available for transformation into finished commodities, and these were steadily supplanted by establishments of larger size and greater complexity. This tendency had been in evidence even before the Civil War, but was greatly accelerated during the last two decades of the nineteenth century and has shown no abatement in the twentieth. It was most marked in the case of the iron and steel industry, cotton manufactures, and leather goods, but was noticeable also in the manufacture of agricultural implements, boots and shoes, carpets, glass, paper, shipbuilding, slaughtering and meat-packing, and tobacco. A few industries essentially local in their nature showed no such tendency, such as flour and grist mills, cheese and butter factories, millinery, picture-framing, etc., but with few exceptions it was the prevailing characteristic of American manufactures. The extent to which this large scale production proceeded is shown briefly in the table opposite.

Although this table shows a remarkable growth in the size of the average establishment, it does not reveal the enormous concentration which took place in the industries especially suited to large scale production. Thus in the iron and steel industry, although the number of establishments actually declined from 808 in 1869 to 654 in 1909, the average number of employees per establishment increased from 197

SIZE OF AVERAGE MANUFACTURING ESTABLISHMENT*			
<i>Date</i>	<i>Average product of each establishment</i>	<i>Average capital of each establishment</i>	<i>Aver. no. of employees of each establishment</i>
1849	\$8,280	\$4,330	7.7
1859	13,420	7,190	9.3
1869	16,780	6,720	8.1
1879	21,100	10,960	10.6
1889	28,070	19,020	13.8
1899	54,969	43,360	20.5
1909	76,993	68,687	24.6

* *Statistical Abstract of the United States, 1939* (Washington, 1940), 772.

to 426, the capital from \$161,000 to \$2,282,000, and the value of the products from \$275,000 to \$2,119,000, showing an astounding growth in the size of the typical plant. Manufacturing began to be organized and carried on by the great captains of industry, small independent producers began to disappear, and laborers to be marshaled in bodies of a thousand men or more.

Advantages of large scale production.—This concentration of manufactures in large establishments was caused by certain distinct advantages enjoyed by large scale production. Foremost among these are economies which are possible in the great industry. The operation of a business on a large scale permits the minute division of labor, the introduction of expensive and complicated machinery and its constant use, the employment of more skilled management and superintendence, the utilization of by-products, and the economical purchase of raw materials and marketing of the finished product. In the large plant a high degree of specialization of labor is possible, and the division of labor is carried to the limit. The modern factory requires a large investment in expensive machinery; from the table above it will be seen that while the average number of employees per establishment grew over threefold between 1849 and 1909, the average investment of capital increased about fourteen times and the product over nine times. This indicates that the tendency in manufacturing was toward machine production.

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In a large establishment every machine is utilized to the utmost, there is no needless duplication of machinery such as would occur for several small plants, while expensive machines to carry on relatively small processes can be profitably installed. (In experimenting with and inventing new machinery and methods the large establishment also has an advantage. Indeed, it may be stated as a general principle that industries in which machinery can be used with advantage constitute the group of large scale industries, and that those in which the conditions are unfavorable to machine industry will remain small. The large scale industry is possible, however, only if the market is a wide one. The large and constantly expanding domestic market in the United States has made possible the introduction of economical methods and the application of labor-saving devices and improved appliances. But these methods are economical only if there is a large output. "The condition of cheap manufacture is running full," said Carnegie out of his abundant experience. Continuous operation, however, requires abundant and steady supplies of raw materials and an adequate market in which to dispose of the output. Both of these have been guaranteed in the United States by the development of cheap transportation which has widened the market area. Until the construction of adequate transportation facilities, the average business establishments in the United States were essentially local in their nature, supplying a comparatively narrow market and using a small capital. With the rapid extension of the railway system after the Civil War, it became possible to expand operations over a wider territory, to localize and concentrate manufactures, and to use larger masses of capital in a single establishment. With the widening of the market there went therefore an expansion in the size of the business unit.)

(The geography of manufacturing.— At the beginning of this period the manufactures of the United States were confined chiefly to that part of the country north of the Potomac and Ohio rivers and east of the Mississippi, and were especially dense in southern New England, southern New York, New Jersey, and eastern Pennsylvania.) This predominance of the northeastern section of the country may be accounted for on historic and economic grounds which have already

been described ; but at the same time there were asserting themselves other industrial tendencies which are less obvious but no less interesting. These were the localization of industries in particular states and cities, the specialization of certain localities, and the shifting of industrial centers.

The tendency toward localization has been apparent ever since the beginning of colonial manufactures, and not merely in this country but in other places as well. While sometimes it seems as though the choice of a location for a young industry were purely a matter of chance, it will generally be found to have been determined by economic causes. (The principal factors affecting the establishment of industries are nearness to raw materials, markets, power, and a good supply of labor ; climate was formerly important, as were local supplies of capital.) In exceptional cases the initiative of the founder of an industry or the momentum of an early start seemed to be the only explanation. (Once begun the localization of industries tended to become constantly greater and was overcome only by potent economic forces.)

The very forces which made for localization tended also to cause the migration of industries when these advantages showed themselves more strongly in other localities. (Thus the manufacture of agricultural implements advanced from New York to Ohio and Illinois, following the retreating hardwood forests and the agricultural markets. The flour milling interests shifted from Rochester, New York, to Chicago, and finally to Minneapolis. Slaughtering and meat-packing, which had its beginning in Cincinnati about 1818, moved gradually westward to Chicago and Omaha, following the opening up of new grazing and fattening regions for cattle and swine.) Sometimes a change of process or of the materials used in producing a commodity affects its location. As long as rags were the chief material in the manufacture of paper the principal paper mills were located near cotton factories as Holyoke, Massachusetts, or near large cities, as Philadelphia ; but when wood pulp became the chief raw material, the industry shifted to Maine, northern New York, and Wisconsin. (In the cotton industry a striking change took place ; by 1910 over half the raw cotton was being manufactured in the South. The reason for the shift was to take ad-

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vantage of the cheaper labor supplies there rather than to be nearer the source of raw material which is light and valuable enough to stand long shipment.

Industries have been more nomadic in the United States than in Europe because of the opening up of new sources of raw materials and the settlement of unoccupied territory.) The movement of manufactures has been steadily westward, the center of manufacturing having moved from the neighborhood of Harrisburg, Pennsylvania, in 1850 to a point west of Columbus, Ohio, in 1910. (In a broad way the tendency was for a growing proportion of agricultural machinery and farm implements, of building and construction materials, of wood manufactures, especially furniture, of foods and drinks, of railway supplies, and of the iron and steel industry, including automobiles, to concentrate in the Middle West. The finer manufactures, especially those calling for highly specialized skills, remained largely fixed in the East. The smaller proportion of the nation's output contributed by this section is due less to its decline than to the expansion of the shares of the West and the South.

Industrial development of the South.—(The most significant change was the industrial awakening of the South.) Although cotton-growing was for a generation after the Civil War the chief interest of that section, (manufacturing began to develop about 1880. The value of all manufactured products increased) from \$338,792,000 in 1879 to \$2,637,117,000 in 1909; (but an even greater development took place in cotton manufactures. In 1859 the southern cotton mills produced an output representing 10 per cent of the total product of cotton goods for the whole country; by 1909 this had grown to 40 per cent. (More than half the cotton spindles in the country were located in the South.) Important new industries were built up on the utilization of cotton seed and other by-products. (The iron industry also made great strides: in North Carolina, Tennessee, and especially in Alabama, abundant supplies of coal, iron, and limestone lay so near one another that pig iron could be made more cheaply there than anywhere else in America, and probably in the world.) The production of southern pig iron increased from 397,000 tons in 1879 to 2,500,000 tons in 1899, or about 10

per cent of the country's production ; and great iron foundries, steel plants, rolling and rail mills sprang up at Birmingham and elsewhere with marvelous rapidity.

(In 1901 vast deposits of petroleum were discovered in Texas, furnishing a cheap fuel and illuminant. The unrivaled water power resources of the southern Appalachians were utilized for the development of hydro-electric power. The splendid forests of hard pine and other timber throughout the South were reached, cut, and sold during this period, and the mineral wealth was located and developed.) Manufactures in the southern states had to depend largely on the labor of the native white population ; the Negroes did not show the persistence necessary for factory labor, and the foreigners who migrated to that section preferred to work on farms or to run stores rather than work in factories. (Child labor was largely employed, and the industrial transition brought up economic problems which were burning questions in New England in the middle of the nineteenth century and in old England at the beginning of the century.

The iron and steel industry.—The progress of manufacturing may best be traced by noting the development of the most typical industries, and for this purpose the iron and steel and textile industries may be selected, not only because they rank high in importance but especially because they exemplify pre-eminently the use of labor-saving machinery and of mass production, both of which are characteristic of American manufactures.

(The manufacture of iron and steel is the nation's key industry, by which the progress of other branches is determined. The great expansion of manufactures since 1860 and of production on a large scale are due to the use of power and the improvement of machinery, both of which are based on the use of metals. The iron and steel industry provides other industries with machines, tools, and equipment of various sorts. Thus in 1910 the census enumerated 346 products of the iron and steel industry, of which 98 were for direct consumption and 248 were machines or articles for use in other industries. Among the sixteen great groups of American manufactures, iron and steel and their products ranked third in 1914, with 6326 establishments and products valued

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at \$2,137,113,000. The development of the manufacture of crude iron and steel alone is shown in the following table :

COMPARATIVE SUMMARY OF THE CRUDE IRON AND STEEL INDUSTRY, 1859-1909*						
<i>Year</i>	<i>Number of establishments</i>	<i>Number of wage-earners</i>	<i>Capital (in thousands)</i>	<i>Cost of materials (in thousands)</i>	<i>Value of products (in thousands)</i>	<i>Tons of products</i>
1859†	402	22,014	\$23,343	\$19,242	\$36,537	509,084
1869	808	77,555	121,772	135,526	207,208	3,263,585
1879	792	140,798	209,904	191,271	296,557	6,486,733
1889	719	171,181	414,044	327,272	478,687	16,264,478
1899	669	222,607	590,530	522,431	804,034	29,507,860
1909	654	278,505	1,492,316	978,139	1,377,152	75,019,765

* *U. S. Census Reports, Manufacturing.*

† Iron forged, rolled, and wrought.

There are two stages in the conversion of the iron ore into commercial steel products : (1) the reduction of the iron ore to pig iron, which is done in a blast furnace ; and (2) the conversion of the iron into steel, which is usually done by either the Bessemer or the open hearth process.² The further working up of the steel into highly finished products, like machines or cutlery, belongs to other branches of iron and steel manufacture and will not be discussed here.

((1) In 1859 the blast furnaces of the United States produced 821,000 tons of pig iron, which grew to 27,304,000 tons in 1909. This great development was caused by a remarkable expansion in demand and by improvements in blast furnace construction and practice and was accompanied by a westward movement of the industry.) When the Civil War broke out more than half the iron made in the country was produced with anthracite coal, the center of this industry being eastern Pennsylvania ; charcoal iron, produced in the eastern states and in Michigan and Wisconsin, was twice as important as that smelted by bituminous coal and coke. During the first half of this period most of the coke was made in beehive ovens, a wasteful process since the gases, containing

² A description of these processes is given in E. L. Bogart and C. E. Landon, *Modern Industry* (New York, rev. ed., 1936), chap. 31.

valuable by-products, were lost ; but in the nineties, by-product coke ovens began to be built, and by the end of the period turned out 86 per cent of the coke in the United States. Bituminous coal and coke almost completely supplanted anthracite and charcoal as smelting fuels. (In 1875 the introduction of the Whitewell hot-blast stove reduced the fuel consumption and enabled a much hotter temperature to be attained. At the same time improvements in the construction of blast furnaces and the use of the regenerative gas furnace permitted much greater production, so that the weekly furnace output increased from about six hundred tons in 1874 to one thousand tons in 1893. By 1890 the United States passed Great Britain as a producer of pig iron, and in 1914 produced about one-third of the world's supply or as much as Great Britain and Germany combined. In the meantime there was a steady movement of production westward, as the Lake Superior ores began to be exploited. The ranges in upper Michigan and Wisconsin were opened in the seventies, and a decade later the soft ores of Minnesota began to be dug out by steam shovels. These ores were transported cheaply to Lake ports such as Cleveland, Gary, and South Chicago where they met the cheap coal and coke from southern Ohio, Indiana, and Illinois. Other centers were Pittsburgh and Birmingham, in both of which abundant and cheap supplies of iron ore and fuel existed.

(2) As it comes from the blast furnace, pig iron does not possess the strength or ductility which is needed for commercial use, because of the presence in it of carbon, phosphorus, and other elements. It is therefore made into steel by processes which get rid of all impurities and give the metal the desired qualities. Before the Civil War steel was so expensive that it was used only for fine cutlery and similar purposes where its cost was not important. In 1855 Henry Bessemer of England discovered a process of making steel which has ever since been known by his name, and in 1864 the first Bessemer steel was made in the United States. In 1860 scarcely any of the pig iron produced in the United States was converted into steel ; by 1900 four-fifths was so converted. Steel rails completely supplanted iron ones, and a thousand new uses of steel for the construction of office

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buildings, bridges, cars, wire and wire nails, structural metal work, hardware, and other products greatly increased the demand. About 1890 the basic open hearth process of converting pig iron into steel began to be generally used; this had the advantage that it permitted the use of iron having more impurities than the Bessemer process could eliminate. This fact, together with other advantages, led to a rapid displacement of Bessemer by open hearth steel.

The steel industry showed a striking concentration into huge establishments of great producing capacity. Thus the average daily capacity of the blast furnaces increased from 25 tons in 1880 to 148 tons in 1900. The average daily capacity of a Bessemer converter grew for the same dates from 5 to 15 tons, and that of an open hearth furnace from 10 to 50 tons. Not only did the size of the single establishment grow, but the number of hitherto separate industries combined under one organization was greatly enlarged: iron and coal mines, railways and steamers, coke ovens and blast furnaces, steel plants and machine shops, were all brought together under a single head, as in the case of the United States Steel Corporation.

The textile industries.—The combined textile industry ranked second in 1914 among the sixteen great groups of manufactures in the United States, with a total product of \$3,444,810,000. The growth of the textile fabric industry alone, which includes the manufacture of cotton, woolen, and worsted, hosiery and knit goods, and silk, together with dyeing and finishing, is shown in the table below.

TEXTILE FABRIC INDUSTRY, 1859-1909*				
<i>Year</i>	<i>Number of establishments</i>	<i>Number of wage-earners</i>	<i>Capital</i>	<i>Value of products</i>
1859	3027	194,082	\$150,080,852	\$214,740,614
1869	4790	274,943	297,694,243	520,386,764
1879	4018	384,251	412,721,496	532,673,488
1889	4276	517,237	767,705,310	759,262,283
1899	4312	661,451	1,042,997,577	931,494,566
1899	4099	631,979	982,559,000	886,882,000
1909	4825	834,087	1,717,795,000	1,591,736,000

* U. S. Census Reports, *Manufacturing*. See note to table on page 529.

Of the different branches of the textile industry, the manufacture of cotton goods ranked first in importance (\$677,000,000 in 1914). Almost destroyed during the Civil War by the cutting off of the supplies of raw cotton, whereby two-thirds of the spindles in the country were rendered idle, it quickly recovered after that event. Great improvements were made in all departments of the cotton industry; steam ginneries were substituted for the older ones run by horse or mule power, and cottonseed began to be used for oil and fertilizer. The main improvements, however, took place in the processes of manufacture itself. New England not only maintained, but improved her position as the center of the cotton spinning industry, and Fall River displaced Lowell as the "spindle city" because of the substitution of steam for water power. "The twenty years ending with 1893," records Clark,³ "cover the period of greatest expansion that the cotton industry has ever experienced."

The rapid expansion favored the adoption of new machinery and methods, which went on so rapidly that progressive factories were completely revolutionized at least once a generation. Among the improvements were the revolving flat card, which reduced waste, saved time, and enabled a poorer staple to be profitably carded, and combing machines. In the nineties the Northrop loom was perfected, which had devices to fill exhausted shuttles, and to stop the loom if a thread broke; as a result of these improvements the number of looms that a weaver could attend increased from eight to eighty-four and the quality of the cloth was better. In the next decade the automatic loom was adapted to colored goods and the output was still further increased. These improvements were adopted faster in the South where new mills were being built and where the inexperienced labor put a premium on the use of automatic machinery. As a result the New England factories concentrated on finer fabrics and left the production of the coarser weaves to the South.

The most significant event of this period was the industrial revolution effected in the South as the result of the development in that section of cotton manufacturing, a strong impe-

³ *History of Manufactures in the United States, 1607-1928* (New York, 1929), II, 384.

tus to which seems to have been given by the Atlanta Cotton Exposition in 1881. Technically and economically this development reproduced many of the features which characterized the growth of the same industry in New England fifty years earlier. Most of the southern mills were located in the Carolinas and Georgia.

¶ This same period witnessed a slower growth in the woolen industry, though this branch ranks second in the textile manufactures; of this group the manufacture of carpets was carried furthest by American inventors, who made the United States the greatest carpet-producing nation in the world. One of the striking features of the recent development of the textile industries was the rapid growth of the manufactures of hosiery and knit goods, which was revolutionized by the application of automatic power machinery. The most phenomenal advance, however, was seen in silk manufactures, although it drew its raw materials entirely from abroad.

Industrial combination.—The forces which enabled the large plant with its many economies and its national market to drive out the small local concern were on the whole those of economic efficiency. But it seemed evident that after the economies of large scale production had been realized, there still remained wastes and losses that could be avoided only if prices could be held at profitable levels and output stabilized so as to keep the plants running at or near capacity. But to do this unified control over prices and marketing was necessary, which was essentially monopoly. The effort to realize this by the union of hitherto competing plants or corporations into larger combinations with centralized management was the most significant movement of the last quarter of the nineteenth century. It may be regarded as a natural and indeed inevitable business development in the attempt to escape competition.

Legislation was favorable to big business. Railroad land grants, protective tariffs, non-interference on the part of government, the liberal judicial interpretation of the common law concerning restraint of trade, and the protection to property rights behind the bulwarks of the Fifth and Four-

teenth Amendments to the Constitution—all these gave advantages upon which industrial leaders were quick to seize. Political conditions were particularly bad for almost two decades after the Civil War, and business dominated politics and in some cases even the judiciary in the furtherance of their plans. The public, absorbed in its private affairs and sharing in the generally prevailing prosperity, was apathetic and uninformed and uttered no effective protest. And finally it was discovered that the corporate form of organization could be utilized to provide the legal framework for industrial combinations as well as for single businesses, and thus give them permanency, flexibility, limited liability, and other advantages.

Upon the stage thus set entered the "trust," or industrial monopoly. The immediate causes of the combination movement are classified by Haney⁴ into (1) driving forces, (2) beckoning conditions, and (3) facilitating conditions.

(1) The speculative gains from the appropriation of the public domain and the exploitation of the natural resources greatly diminished in the late eighties and nineties, and profits had now to be sought from more careful utilization of materials and improved technique of production. The period from 1865 to 1896 was one of falling prices, which reduced profits and made business more precarious. Management and marketing came to be more important in industry than cheap raw materials, and hence those forms of industrial organization in which capable business leaders could best work out economies and improved methods were the ones which came to the front. At the same time, with the widening of the market through improved transportation, the business risks involved in fluctuations of costs and prices came to be more important. The result of both these factors was greater severity of competition among different businesses, especially those of decreasing costs which were expanding their operations. The burden of the testimony by business men before the Industrial Commission in 1899 was that a strong impelling force to industrial combination was "competition so vigorous that profits of nearly all com-

⁴ L. H. Haney, *Business Organization and Combination* (New York, 1913), 134 ff.

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peting establishments were destroyed.”⁵ This competition could best be avoided by combination.

(2) The conditions which invited combination were the hope of larger profits through reduction of costs or the stabilization of prices, and the prospect of gain from over-capitalization. Bankers and promoters took advantage of the more legitimate economic movement to launch combinations for the sake of underwriters’ profits rather than for industrial savings: for example, the group that set up the United States Steel Corporation made a profit of over \$60,000,000.

(3) Among the facilitating conditions may be included the standardization of machinery and methods, the creation of adequate accounting systems, the perfecting of the telegraph, telephone, and typewriter, and most important of all the development of the corporate form of organization with limited liability. How important this last factor was may be judged from the fact that while less than one-third (28.3 per cent) of the industrial establishments in the United States in 1914 were corporate in form, these turned out five-sixths (83.2 per cent) of the goods manufactured.

The trust movement.—Under the pressure of economic forces the movement toward industrial reorganization began. The word “trust” has two meanings; the broad one is an industrial monopoly operating over a wide market if not the whole nation.⁶ Thus a huge banking house was not a trust, a public utility empire was not a trust, a strong craft union was not a trust (although sometimes prosecuted under the anti-trust laws), and a local building supplies monopoly was not a trust. Until transportation improvements made a wide-spread monopoly possible there were no trusts, but when transcontinental railroads appeared trusts appeared shortly and grew in number. Moreover, so great were the improvements in machinery that production at remunerative prices in many lines outran consumption; the rapid mechanization of industry intensified competition. Various devices had been resorted to for the purpose of restricting competition

⁵ Preliminary Report of the Industrial Commission (Washington, 1900), 9.

⁶ The data in this section is based on E. Jones, *The Trust Problem* (New York, 1924), chaps. 1-4, and his conception of a trust is used.

even before the Civil War, but beginning about 1865 more conscious and stronger efforts were put forth. The first were simple agreements among competing producers to fix prices or to limit output, like those of the anthracite coal mines and the salt producers. This was the typical form of combination from 1865 to 1875, but the agreements were extremely loose and constantly broken by the members under the temptation of higher profits. A more formal and complex combination was the pool, which was the leading form of organization between 1875 and 1895. It was the favorite form of agreement among the railroads until it was forbidden by the Interstate Commerce Act of 1887, but it was used also by industrial groups such as the steel-rail pool, the powder pool, the tobacco pool, and others. An industrial pool was a combination of independent businesses which sought to control prices by limiting the output, dividing the market, or pooling the profits. It too did not stand up under the temptation of higher profits, and its agreements could not be enforced in a law court because it was a conspiracy in restraint of trade under the common law.

Before this form had run its course, a stronger form of organization, involving more complete control over the member organizations, was devised by John D. Rockefeller. This was the "trust" in the original, narrow, now rarely used sense of the term. The first and the model of all later ones was secretly organized in 1879 as the Standard Oil Company, consisting of an earlier company of this name and some of its strongest competitors. According to this scheme a board of nine trustees was selected to whom the stockholders surrendered their stock, receiving in return trust certificates; the trustees then operated all the plants in harmony and divided the profits among the holders of the trust certificates. The success of this new style combination led to the formation of similar arrangements in the manufacture of whisky, sugar, lead, cottonseed oil, starch, etc. Hostile legislation and adverse decisions of the courts forced the trusts to change their form in the early nineties. The trusts were dissolved, but in legal form only, for the combinations continued.

Between 1890 and 1904 the prevailing form of combina-

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tion was the holding company, of which there were two types. During the first ten years the property-holding type was the more common. This sometimes took the form of a merger, on other occasions it was effected by the sale of property by one company to another, or finally it might take place through the exchange of property for stock in the expanding concern. The American Tobacco Company of 1890 and the American Sugar Refining Company of 1891 were property-owning holding companies. After 1900 the prevailing type was the security-holding company; this is a corporation organized to hold a controlling interest in the capital and therefore the management of hitherto competing business units, but which does not itself conduct any business. The closing years of the nineteenth century witnessed a wholesale reorganization of manufacturing, transportation, and mercantile enterprises under this new form. The holding company was made possible by the deliberate amendment by New Jersey of its corporation law in 1889, followed by similar modifications by Delaware and Maine, to permit this form of combination. All that was necessary in order to transform a trust into a holding company was to obtain a charter of incorporation from one of these charter granting states and to exchange the trust certificates for stock in the new company.

The combination movement began on a large scale in 1898 and ran at fever heat during the next five years. Up to 1897 most of the combinations had been railroads, but thereafter industrial combinations became increasingly numerous. Promoters and speculators took advantage of the eagerness of the investing public to purchase industrial securities and floated many questionable enterprises. Over \$6000 million worth of securities was marketed by the new industrial trusts before the movement spent itself. By 1903, however, it came to an end; the collapse of the shipbuilding trust revealed some of the evils of fraudulent trust financiering, and the decline of the stocks of most of the new companies disillusioned the investor and brought about a general reaction in public sentiment.

Many exaggerated estimates have been made of the extent of this movement, but the most trustworthy count at the time it was made was probably that of the census of 1900,

from which pools and simple expansion of existing businesses were excluded. One hundred and eighty-five industrial combinations were reported, comprising less than one-half of 1 per cent of the establishments in the country, but owning 15 per cent of the capital, employing 8 per cent of the employees, and turning out 14 per cent of the manufactured products in the United States. The greatest combinations had taken place in the iron and steel industry, which alone produced nearly one-third of the gross value of the products of all industrial combinations. After the publication of this conservative report, other combinations were effected which greatly changed these figures. In 1904 it was estimated that 318 industrial trusts with a capital of \$7,246,000,000 and representing consolidations of nearly 5300 distinct plants existed in the United States; of this capital over one-third was controlled by seven great organizations. While these figures are far from trustworthy, they at least serve to indicate roughly the extent to which combinations of various sorts entered into our national industrial life. Seager estimated that "making full allowance for industrial combinations in the mining field, it appears that by 1904 the trusts controlled fully two-fifths of the manufacturing capital of the country." They controlled more or less successfully the production of tobacco, petroleum, sugar, linseed oil, iron and steel, copper, shipbuilding, beef, starch, flour, cottonseed oil, candy, chewing gum, candles, salt, ice, glucose, crackers, matches, whisky, anthracite coal, fertilizers, tin cans, farming tools, locomotives, writing paper, school furniture, sewer pipe, glassware, rubber goods, buttons, leather, electrical supplies, and other products.

After 1904 there was a return to the property-holding company, particularly to consolidation through amalgamation and merger. This was usually effected through the outright purchase by one organization of the properties of related businesses and their union into a single business unit. The formation of the American Tobacco Company and of the Du Pont Powder Company illustrate this method. The vigorous enforcement of the Sherman Anti-trust Act and of the

⁷ H. R. Seager and L. Gulick, *Trust and Corporation Problems* (New York, 1929), 61.

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state laws in turn rendered this form of organization precarious and led to another style of combination, looser than the trusts and the holding companies which it succeeded. This was control through community of interests and interlocking directorates. The same ends were also achieved by the establishment of statistical associations and open price associations, for the ostensible purpose of exchanging information as to production, sales, prices, and other matters.

This brief survey shows a determined and persistent effort on the part of American enterprisers to exercise increasing control over the processes of production and marketing. The growth of large scale production and the concentration of manufactures in single large establishments was primarily a phenomenon of the nineteenth century, while central-office management is a product of the twentieth. The methods by which this was achieved differed from time to time in response to new needs, the genius of individual organizers, and the pressure of public opinion. Though the legal form changed in chameleon-like fashion, the essential purpose in the combination movement persisted with little variation.

From an economic point of view, as distinguished from the mere legal forms which have been described, two types of combination may be differentiated. The "horizontal" or trade combination, which unites competing organizations in the same trade, and the "vertical" or industry combination which unites successive stages of an industry from the beginning to the end. Most of the pools, trusts, and other combinations already described were of the former type. The latter effected an integration of many industries which represented different steps in the transformation of raw materials into finished goods. Striking examples were found in the United States Steel Corporation, which brought under one ownership and management ore mines, ships, railroads, blast furnaces, rolling mills, and other plants; and in the tobacco industry, where the growing and curing of tobacco, the manufacture of snuff, chewing tobacco, cigars, and cigarettes, to say nothing of machinery, tinfoil and cans, and finally the retailing of the finished product were combined.

Not every type of industry lent itself to monopoly control. There was never a cotton goods trust nor a bread trust,

since it would have required little capital to set up competing plants. A wire nail pool was short-lived for this very reason and the attempt to monopolize cigar-making was unsuccessful. Neither was there a gravel trust because of the cost of transportation as well as the commonness of the product. Trusts were usually most successful in articles that could be standardized, that required much specialized equipment for cheap large scale production, and that could stand shipment considerable distances.

Every successful trust held a near monopoly control of some one stage of production. The Standard Oil Company controlled refineries and later pipe lines, leaving much of the risk of well operation to others; the sugar trust possessed a majority of the refineries in the industry; and the shoe machinery trust had patents on the machines which it leased instead of sold, at the same time requiring its customers to use only its machines. Yet despite the tight grip of some of these trusts, competition continually crept in, especially when a trust was making sizable profits. The history of many of them shows a steadily declining percentage of control, interrupted occasionally when the trust bought up a competitor. The sugar trust controlled 67 per cent of production in 1900, dropped to 55 per cent in 1903, but then raised it to 58 per cent in 1904 by acquiring several beet sugar refineries, after which control fell steadily to 42 per cent in 1910.

Advantages and disadvantages of combinations.—Many of the advantages claimed for industrial combinations are due as much to large scale production as to combination, and may be enjoyed by producers not within the combination. The following are the chief economies of production effected by combination: (1) only the best located and most efficiently equipped plants are operated, as in the former whisky trust; (2) obsolete machinery is scrapped and only the best is used, thus applying the latest inventions and utilizing patents; (3) the best ideas in the combining plants are exchanged, and the efficiency of all raised to the level of the best, as in the sugar and tobacco trusts; (4) by engaging in the manufacture of several different articles, the risks are better distributed, as in the case of General Motors; (5)

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by-products are utilized ; (6) the best managerial talent and organizing ability are obtained.

The peculiar economies obtained by combinations lay, however, rather in the savings in marketing than in production, and these may be summarized as follows : (7) better bargaining power exists in the purchase of raw materials ; (8) there is better command over capital and credit facilities ; (9) the cost of advertising, of traveling salesmen, and of other items which figure largely in a strongly competitive business, may be materially reduced under combination ; (10) saving in cross freights is effected in the case of those trusts which have plants located in various parts of the country, and which can fill orders from the nearest plant.

Insofar as the industrial combination secured economies of production and marketing which would not otherwise have been effected, it was justified as an efficient mode of organization. Savings of this nature as a result of large scale methods were, however, not new, but characterized the manufacturing industries of the United States since the middle of the nineteenth century and contributed largely to the concentration of industry. The aim of industrial combinations was rather to obtain a monopoly position and to control prices. When they effected economies, they did not lower the prices of their products to the public in proportion, and in some cases even raised them. The most serious indictment against industrial combinations, however, was not that they have raised prices and pocketed monopoly profits, but that they used unfair methods. Among these may be mentioned the practice of crushing smaller competitors by local price-cutting, by the establishment of bogus independent concerns, and by the sale of certain brands at a loss ; refusal to sell to dealers unless these obligated themselves not to sell products of competitors ; the receipt of rebates and discriminating favors from the railroads ; and other unfair practices to strangle competition. Even more serious was the legislative corruption by means of which "big business" contrived to obtain valuable rights and privileges, immunity from attack, or special favors. These abuses tended to disappear under the increasing regulation of our law-

making bodies and of the courts, and by reason of a higher standard of business ethics in industry itself.

Trust legislation.—Under the common law monopoly was a crime punishable by fine and imprisonment, and agreements in restraint of trade, carried so far as to be unreasonable, were held to be illegal and unenforceable. There arose a popular demand, however, for more positive legislation against monopoly and combination. In 1887 Congress passed the Act to Regulate Commerce, prohibiting pools among railways, and in 1890 the Sherman Anti-trust Act, which provided that "every contract, combination in the form of a trust or otherwise, or conspiracy, in restraint of trade or commerce among the several states, or with foreign nations, is hereby declared illegal." These two acts marked the culmination of a decade of persistent agitation against combination, especially on the part of the railroads. The beginning of the twentieth century witnessed an even more remarkable public protest, this time against the trusts. An era of "muckraking," as it was characterized by President Theodore Roosevelt, revealed many flagrant abuses and resulted in further federal legislation.

At the same time there began the enactment of anti-trust legislation by the states; thirty-two states and two territories in all passed such laws, and in seventeen states anti-trust provisions were inserted in the state constitutions. These enactments were very severe, but before they could be fairly tested in the courts, they were deprived of all power to control the growing trusts by the lax policy of the three "charter-granting" states, New Jersey (until 1913), Delaware, and Maine, which not only failed to pass any anti-trust legislation, but greatly relaxed their existing statutes. Ninety-five per cent of the trusts were accordingly incorporated in these states, and as a corporation can be deprived of its charter only for violation of the laws of the state in which it is incorporated, the other states were practically helpless.

Defects in the federal acts soon became apparent. Railroads avoided giving full testimony to the Interstate Commerce Commission until 1896; in 1897 the Supreme Court

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ruled that the commission lacked power to prescribe rates, and the teeth of the commission were drawn in other ways. Much of the force of the Sherman Anti-trust Act was destroyed when the Department of Justice lost its first important case through poor preparation of the brief. Prosecution of the sugar trust was set aside on the ground that purchase of the E. C. Knight Company refineries, which gave the trust 98 per cent control of the industry, was merely a contract for acquisition of a manufacturing plant within a state and "bore no relation to commerce between the States." The first successful prosecutions of trusts took place in 1898 and 1899 when the Trans-Missouri Freight Association, and the Addyston Pipe and Steel Company, both pools, were ordered to dissolve. The decision in 1904 against the Northern Securities Company, a securities-holding company controlling two parallel transcontinental railroads demonstrated that security-holding companies were not immune to anti-trust prosecution. Defects in the federal laws were partially remedied by the Elkins Act of 1903, which facilitated prosecutions under the Interstate Commerce Act, and by the creation of the Federal Bureau of Corporations with power to make "diligent investigation into the organization, conduct, and management" of corporations engaged in interstate commerce (railroads excepted).

Under President Theodore Roosevelt, moreover, the federal government made a vigorous effort to apply existing legislation to the evils of monopoly and combination. Within the decade 1901 to 1911, 81 suits were brought and prosecutions instituted by the Department of Justice under the Sherman Anti-trust Act. By the latter year, however, the early crusading spirit was beginning to ebb and in the decisions against the Standard Oil Company and the American Tobacco Company the Supreme Court laid down in an obiter dictum its famous "rule of reason" regarding trust prosecutions. In order to be illegal a combination now had to act in "*unreasonable* restraint of trade," and the following year in the case of *U.S. v. St. Louis Terminal Railway Association* the Court went a step further and added that a combination that was illegal because of unreasonable restraint of trade might achieve legality by modifying its by-laws. Since the Sher-

man Anti-trust Act did not contain the adjective "unreasonable" the Court's obiter dictum has often been pointed to as a case of judicial legislation, a usurpation by the Court of a Congressional function. It should be observed, however, that the rule of reason was a principle of long standing in law.

It was becoming obvious that further and more specific anti-trust legislation was needed to supplement the loosely phrased and variously interpreted Sherman Anti-trust Act. Under the sponsorship of President Woodrow Wilson, who demanded a "new freedom" from monopoly, two important pieces of legislation were passed by Congress in 1914. A Federal Trade Commission was created to administer the anti-trust laws and to prevent unfair methods of competition. The commission was to determine whether unfair practices were being used, and if so to order their cessation; final enforcement of such an order rested with the federal courts. The other measure, the Clayton Anti-trust Act, also defined specifically certain unfair practices, such as discrimination in prices among different purchasers and exclusive contracts which prevent purchasers of goods from dealing in competing goods, all of which were declared unlawful. The act also prohibited the acquisition by one corporation of stock in another where the tendency would be "substantially to lessen competition." Interlocking directorates, the connection of railways with construction companies, and similar practices were also restricted. To what extent the new laws were successful and to what extent they were circumvented will be discussed in Chapter XXVII.

The purpose of anti-trust legislation and of the court decisions based thereon was to destroy monopoly and to restore competition. It is evident that the anti-trust movement rested on the theory that competition was beneficent and that individualism and *laissez faire* were the best methods by which social well-being could be achieved. Both theory and practice contained large flaws: (1) It was not clearly perceived that railroads and some large industries, like steel, were burdened with high fixed costs and must operate continually to live, that competition from overbuilding or during a depression would bring on combination or receivership, that receivership would not cause the plant to be scrapped but

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only reorganized, and that some working agreement must eventually result which meant combination; (2) if competition was desirable, then the tariff, recognized by some as the "mother of trusts," should be greatly reduced, but Congress was reluctant to take this step; (3) and if trusts were evil, particular care should have been taken to see that they were effectively dissolved; but here the course of action was very muddled. In the Standard Oil Company dissolution the court merely ordered that the stock of the subsidiary companies be distributed pro rata among the stockholders of the parent company. This meant that those who had been prominent in running the trust were later prominent in running the presumably competing successor companies; in other words, the holding company was dissolved and an interlocking directorate established in its place by court order. In the dissolution of the American Tobacco Company stock was so distributed among three companies by brands that each enjoyed a monopoly in a distinct sales territory.

Recapitulation.—The period following the Civil War produced businesses larger than had ever been known before. Such big business was made possible by remarkable transportation improvements which widened markets, by such technical improvements as the manufacture of cheap steel for machinery, improved oil for lubricants, and numerous advances in power production, by the richness of this country's natural resources, by a growing labor supply, by effective mobilization of capital at home and abroad, by the inventive genius of the people which our patent system encouraged, by tariff protection from foreign competition at this critical time and yet freedom of access to the wide domestic market, and by the genius of our industrial leaders. But opportunities to develop big business and freedom from regulation, or the *laissez-faire* policy, resulted in the creation of huge monopolies which trampled small competitors ruthlessly underfoot and exploited the consumer. To remedy this evil, anti-trust legislation was enacted, which was at first ineffective but gradually taught the trusts to mend their ways. But the law-makers believed competition was the cure and failed to perceive that monopolies or at least very large business units were an inevitable part of the economic

trend. The legislation was passed to meet immediate evils and not to reconstruct the economic order.

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CHAPTER XXII

LABOR

IN ONE aspect the Civil War was the final act in a labor struggle which had dominated the history of the United States for the previous half-century—that of free versus slave labor. With the emancipation of the slaves the labor problem reached a new phase and the emphasis from this time on was placed upon the betterment of the condition of the industrial classes. Forces similar to those which had helped bring about the freedom of the slave were now directed largely to the problem of ameliorating the condition of the wage-earners. The derangement of wages by the excessive issues of legal tender paper money, the introduction of labor-saving machinery, the competition of widely separated producing areas and of wider markets resulting from improved transportation, and the increase of immigration were all combining to produce a new set of conditions and to call for corresponding adjustments. After 1860, accordingly, the labor problem assumed a new prominence and took on a different aspect.

The growth of a wage-earning class.—So long as the United States remained primarily an agricultural country in which most of the workers were independent farm-owners, the number of persons working for wages remained small. After 1860, however, the development of manufacturing and of mining and lumbering, the growth of large scale production, the use of automatic machinery, the concentration of industry, and the immigration of large numbers of unskilled, capital-less laborers all tended to produce a wage-earning class. The early ideal of having every worker become ultimately the owner of a farm or manager of his own business passed away, and the existence of a distinct wage-earning class, that is of persons who would always work for wages, came to be recognized as a permanent fea-

ture of American society. By 1910 the number of persons engaged in manufacturing almost equaled those in agriculture and during the next decade exceeded them.

The composition of this labor force has varied slightly from time to time, but for the most part has been made up of men. As might be expected in an industrially developed country like the United States, most of the people in the productive age groups were at work. Over 90 per cent of the men between the ages of 16 and 60 were engaged in some gainful occupation. The proportion of women between these ages, recorded by the census as wage-earners, was much smaller, since most of them stayed at home as housekeepers, but it was almost 25 per cent in 1910. The year 1850, when these statistics were first gathered, recorded the largest percentage of women in the manufacturing industries, but this was due to the inclusion of household manufactures in this group. During the next quarter century the development of industries that required heavy manual labor and physical strength, such as the iron and steel industry, called for men, and there was a relative decline in the number of women employed. In the last quarter of the nineteenth century, however, other industries grew up in which women were preferred, and there was a relative gain of women over men, a movement which continued at accelerated speed in the twentieth century. Proportionately more women were employed in 1910 than in 1860, over 25 per cent of all the workers in gainful occupations being women at the later date as contrasted with about 10 per cent at the earlier. Domestic and personal service still claimed the largest number, though the tendency was away from these traditional occupations to factory and office work. Retail selling also attracted a large and increasing number of women wage-earners. In several other industries where special rapidity or lightness of touch were required the women outnumbered the men, as in the manufacture of cotton goods, hosiery, hats, and caps, gloves, rubber goods, millinery, umbrellas, and similar lines.

Prior to 1870 no statistics were gathered in the United States of the number of children engaged in gainful occupations; the census of that year showed that 739,164 children

between ten and fifteen years of age were thus employed, of whom 115,000 were in manufacturing establishments. During the next decade the number increased almost 60 per cent, the census of 1880 showing a total of 1,118,356 children in all occupations. The disclosure of such an undesirable development called forth restrictive legislation in most of the states, and during the next decade the number of children engaged in manufactures declined 33 per cent. But the number increased again in the next ten years, even beyond the figures of 1880, owing especially to the development of the cotton-manufacturing industry in the southern states, where but little factory legislation existed as yet. In 1910 the total number of children at work reached 1,990,225, the high water mark, but after this it fell off.

Industrial changes and labor organization.—These census statistics, so carefully collected and analyzed, give the essential facts as to our industrial growth, but they do not explain why things happened as they did nor do they present causes. For this it is necessary to examine more closely the structure of industrial society at different times during this period. After 1860 the labor movement was profoundly affected by the changes which occurred in industrial organization. The first of these was the nationalization of the market through improvements in transportation, so that local areas of competition were widened to embrace half a continent, and competition was both increased and intensified. Not only did the railway net grow in size, but east and west trunk lines were built and consolidated into great systems, so that transportation became quicker and cheaper and touched more points. "The creation of a national market," writes Dr. Andrews,¹ "fundamentally changed the price-fixing forces in the majority of the industries, and therefore could not help producing a most thoroughgoing effect upon the struggle between industrial classes." The worker was now exposed to sharper competition and his bargaining power was lessened. The competition in the same market of products from widely scattered localities tended to reduce the price and this ex-

¹ J. R. Commons and associates, *History of Labour in the United States*, N. Y., 1921, II, 43.

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erted a depressing influence upon wages. At the same time labor became more mobile, and migratory out-of-town journeymen competed with local mechanics.

Another change was the shift from a handicraft to a machine basis and the consequent division of labor, which broke up the old established trades and made possible the employment of unskilled workers. The growth of factories tended to concentrate the workers in larger masses in cities and large scale industry to group them under one roof and management. Here they exchanged ideas, found common needs and grievances, and combined more easily in organizations, while an aggressive labor press educated them and presented their claims to the world. At the same time the growing displacement of hand labor by machinery and the increased size of the business unit made the worker more dependent upon the owner of capital for his employment, and introduced new lines of social cleavage. The passing of the small industry and the coming of the great corporation substituted for the personal contact of master and man the impersonal relationship of capital and labor and tended to a lack of understanding if not of economic interest. These changes bore most heavily upon the trades in which machinery was most generally introduced, such as the iron and steel workers, machinists, molders, coopers, shoemakers, and type-setters, and it was these men who led the labor movement which accompanied the industrialization of the country.

Beginnings of trade unionism.—The nationalization of the market gave birth to the national trade union. During the decade ending with 1873 twenty-four national unions were organized in an endeavor to meet the depressing effects of nation-wide competition by a corresponding widening of the scope of the trade unions. Among these national organizations, founded at this time, were the locomotive engineers, the first of the great railroad unions, the iron-molders, machinists and blacksmiths, miners, and shoemakers. The total membership of the national unions in 1873 was probably about 300,000.

It was not enough to organize national unions in the separate trades ; the next step was to bring these together in a single body. This was done by the founding in 1866 under

the leadership of W. H. Sylvis of the National Labor Union, a weak federation of local, state, and national organizations. The measures urged by this body show the problems confronting labor at this time and the economic philosophy of the workingmen which had changed but little in the last generation. The first convention in 1866 devoted its attention to securing an eight-hour law, partly to relieve the unemployment which was serious at the war's close, but even more as a means toward obtaining a wage increase. Ira Steward, a Boston machinist, successfully spread the doctrine "Whether you work by the piece or work by the day, decreasing the hours increases the pay," his theory resting on the false assumption that the worker's wages are determined by his standard of living and that if his leisure is increased, so will be his wants, and a wage raise will follow. Numerous eight-hour leagues were formed, Congress responded with an eight-hour law for federal employees, and six states passed laws, but without adequate provision for enforcement. Attention was also directed to co-operation as a method of self-help and of escape from the wage system and the rigorous discipline of industrialism. Finally, the espousal of "greenbackism" by the National Labor Union gave the labor movement a new turn which led it into politics. Greenbackism sponsors urged the reduction of the rate of interest to 3 per cent and the issue of legal tender currency so as to furnish ample funds to the co-operatives and to workers in their struggles against the capitalist middlemen. The farmer had obtained free land under the Homestead Act, the worker was now seeking cheap capital under a Greenback Act, but he was unsuccessful. With the failure of these movements the National Labor Union came to an end.

When the national trade unions began to disintegrate after the panic of 1873, the bulwark against wage reductions disappeared and the gains of the eight-hour movements were swept away. The demands of labor up to this time had been primarily political, in that they called for legislation; the improvement of working conditions by strikes and boycotts belonged to a later period.

During the seventies and eighties the still more extended widening of the market through improved transportation and

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the rapid introduction of machinery brought about further changes in industrial organization. The manufacturer was forced to concentrate upon production and to leave the marketing of the ever-growing output, which must rapidly be turned into money, to a specialist in that field, namely the wholesale-jobber. This middleman came to be the dominant figure in industry. By playing off the competing manufacturers against one another he produced cut-throat competition, low prices, and low profits. The manufacturer tried to recoup himself by reducing wages, and the worker found his bargaining power threatened by all the technical and industrial changes which marked this period. With the general introduction of labor-saving machinery in the eighties the skilled workers were threatened by the competition of the unskilled, and attempted to meet the situation by the fusion of both the skilled and the unskilled workers into one labor organization. This was the Knights of Labor.

The Knights of Labor.—Organized in 1869 as a secret society by Uriah Stephens, a Philadelphia garment cutter, the Knights of Labor grew slowly at first. Considerable uneasiness was caused when the appearance in public places of strange hieroglyphics, including five stars standing for the union's name, would bring hundreds of workmen together. Although intended to protect the men against employer persecution, the mystery exposed the organization to misrepresentation and did more harm than good, so that in 1878 the element of secrecy was dropped. Thereafter membership grew rapidly, reaching 100,000 in 1885. Finally the union forced that shrewd financier, Jay Gould, to treat with it in order to avert strikes on the Wabash and the Missouri Pacific railroads. The effect of the victory was electrifying: membership skyrocketed to 730,000 by the following year, making the Knights the most imposing labor union the country had ever known.²

The ideals of the Knights were very high. They looked forward to the end of the wage system, but they were not socialists; rather they hoped to establish a new social order by means of co-operation and political action for the benefit

² S. Perlman, *A History of Trade Unionism in the United States*, N. Y., 1922, 273. This book gives an excellent sketch of these changes.

of the workers. They wished "to secure to the workers the full enjoyment of the wealth they create, sufficient leisure in which to develop their intellectual, moral, and social faculties, all of the benefits, recreation, and pleasures of association." To obtain these they demanded, among other things, the establishment of bureaus of labor statistics, reserving of public lands for actual settlers, the repeal of unequal laws, a weekly pay-day, mechanics' lien laws, abolition of the contract system of labor on public works, substitution of arbitration for strikes, prohibition of the employment of children under fourteen years of age, the eight-hour day, etc.; but the cardinal principles remained always union, education, and producers' co-operation.

The Knights sought to realize the ideal of "one big union" and aimed to bring into one organization all productive labor, using the strength of the skilled to improve the condition of the unskilled, and mobilizing the unskilled so their competition would not hurt the skilled. Most of the authority rested at the top of the organization. The lowest unit was the local assembly, usually made up of about a dozen workers largely of one trade. Next came the District Assembly in which numerous trades were represented and which had complete authority over its locals. Above it was the General Assembly, "the highest tribunal," and when it was not in session its power rested in the hands of the General Executive Board headed by a Grand Master Workman. After 1878 Terence V. Powderly, an ardent idealist, succeeded Stephens to this office and held it almost continuously until 1893, by which time the Knights had lost their importance in the labor world.

The reasons for the rapid decline after 1886 are numerous and include such mistakes as dabbling in politics and abusing the boycott, but the chief ones may be summed up under four heads. (1) Despite their early professed abhorrence of strikes the Knights engaged in a number of large ones for which they were quite unprepared. This of course hurt them in the workers' eyes. Considerable blame for this falls to the organization's officers, who often lacked a settled policy and showed poor judgment in exercising their large powers. Certainly the ease with which they called one sym-

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pathetic strike after another with little regard to the strategic importance of the groups selected did more harm than good. (2) The Knights' uncompromising attitude and sometimes violent methods lost them public support. The sabotage connected with the Southwestern railroad strike in 1886 made an impression on the public mind second only to that of the 1877 strike, and it was merely the most outstanding of many Knights strikes at this time. On top of that came the bomb-throwing episode in Haymarket Square, Chicago, during the eight-hour movement. Although it was not known who was responsible for the missile, eight anarchists were arrested for inciting the outrage, and when one proved to be a Knight and his local assembly would not expel him, many persons condemned the whole Order. (3) Many failures occurred in the co-operative enterprises of the Order. According to Perlman some 200 co-operative ventures were undertaken, chiefly in cooperage, shoemaking, and mining, the best known being a coal mine at Cannelburg, Indiana. The average investment was \$10,000 and the financial losses were heavy. In the days of Robert Owen and George Evans, when small workshops and independent artisans were the rule, co-operation appeared to be a possibility, but after the Civil War, when large scale production and expensive machinery called for huge investments of capital and centralized control, co-operation was a naïve anachronism and was doomed to failure. (4) But most important was the breakdown of the feeling of solidarity among the different types of members. The mixed assemblies possessed little in common, and the vague ideals of brotherhood were not powerful enough to bind workers from diverse industries into a unified body for action. In fact, between the skilled and unskilled there developed at times a positive animosity because the skilled workers realized that they were strategically more important in winning a strike than the replaceable unskilled worker and consequently resented sharing the gains if the strike was successful or were bitter if it failed. Add to this the increasingly apparent success of the compact craft unions outside the Order in winning their strikes, and it becomes apparent why after 1886 the skilled workers in both industrial and

craft unions drifted more and more into the ranks of the new American Federation of Labor.

American Federation of Labor.—This organization officially dates its founding in 1881 with a membership of 48,000, but during the first five years of its existence it was weak and ineffective and did not function vigorously until its reorganization in 1886. About twenty-five trades were represented at this time, including carpenters and joiners, cigar-makers, furniture-makers, iron-molders, miners and mine laborers, and typesetters. The Federation grew to 200,000 in 1889, at which time the declining Knights claimed about an equal number, expanded to 550,000 in 1900 and to 2,000,000 in 1914. Much of the Federation's success must be attributed to the astute leadership of Samuel Gompers, an English-born immigrant of Dutch-Jewish descent and a cigar-maker by trade, who was president from 1886 to his death in 1924, with the exception of one year.

The chief purposes of the Federation were to unite the various unions for mutual assistance, to obtain legislation favorable to the interests of the working classes, to use every possible means to remedy abuses from which workers suffer, and to improve their working conditions. In carrying out this program the Federation maintained that the strike, the boycott, and the unfair list were justifiable and necessary methods in achieving its ends. It consistently attempted to raise the standard of living by shorter hours, higher wages, and better working conditions. It is noteworthy that the Federation had no long-range program of establishing co-operatives and abolishing the wage system. Gompers prided himself on being a realist, disapproved of political entanglements, avoided the sympathetic strike, and was generally conservative. He believed that the betterment of labor's conditions by short stages, as opportunities arose, would be more lasting.

The organization of the Federation differed markedly from that of the Knights. The lowest unit was the local union, whose members were all of one trade, say cigar-making; then all the cigar-making locals were organized into one national union, and finally the American Federation

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of Labor united all the nationals. The system was modeled on our own government, with each national playing the part of a state. It is true that there were centrals and state organizations, but they were of secondary importance and often temporary. The Federation was thus merely a loose grouping of practically self-governing national or local unions, which were largely independent of one another. The members of one affiliated union might strike and those of another might continue at work in the same plant. Only matters of general interest came before the Federation's officers. Thus authority was highly decentralized and the Federation was held together largely by the recognition of each union's independence plus the assurance that the Federation would admit no rival union of the same trade.

Until comparatively recently the unions making up the American Federation of Labor contained the skilled members of a particular craft or trade but largely neglected the unskilled. But as machine methods destroyed the value of special skill or the need of training for a particular craft, and as industrial combinations brought together under one management various branches of an industry, the power and importance of the older type of self-sufficient or separate trade union was threatened. Some of the unions within the A. F. of L., while not yet approving the idea of "one big union," sought to organize all workers in their industries; such were the coal miners, the brewery workers, and others. With the dawn of the twentieth century, therefore, a tendency showed itself for a new type of organization, comparable with the integration of various industries in a vertical trust, to develop in the field of labor. An outstanding example of the new type of union, called the industrial union, is the Industrial Workers of the World (I. W. W.).

The Industrial Workers of the World.—This union was founded in 1905 under the leadership of Eugene V. Debs and Daniel DeLeon, two socialists, and William D. ("Big Bill") Haywood of the radical Western Federation of Miners, and was noted from the outset for its violent methods. Never enjoying a large regular membership because of the poverty of its supporters, it began with 14,000, rarely exceeded 50,000 at any one time, and had issued a total of

only 300,000 cards by 1916. Its leaders believed in direct action and were opposed to arbitration, collective bargaining, trade agreements, or seeking aid from existing parties: their terms were unconditional surrender. They advocated a great general strike which would paralyze society and would cease only when control of the means of production had been turned over to the workers. Meanwhile they practiced sabotage—destruction of property as well as loafing on the job—initiated boycotts, and conducted strikes. Internal dissensions weakened the I. W. W. at an early date and its unpatriotic sentiments and methods wrecked it during World War I. Although never the serious rival to the A. F. of L. that the Knights of Labor had been or the recent and more moderate Congress of Industrial Organizations was to be, the I. W. W. proved a useful stimulus. It mobilized and directed the strikes of unskilled workers in lumber camps in the Northwest, of migratory laborers on the wheat fields of the West, of miners in the Great Lakes and Rocky Mountains, and of textile workers in eastern mill towns. The A. F. of L. realized their neglect of this stratum of labor and took some action to remedy the oversight. Thus the chief contribution of the radical organization was the attention it brought the unskilled, but even here success was short-lived because the I. W. W. leaders refused to enter into trade agreements, and soon after their departure the gains were usually lost.

Summary.—Unions may be classified as to structure or as to aims, and there are three sorts in each classification according to Professor Berman. With regard to structure there is: (1) the labor union which takes in all skills, whether butcher, baker, or candlestick-maker, and all degrees thereof—the Knights of Labor is an example; (2) the industrial union which seeks to organize all the workers in a given industry—the Western Federation of Miners and the I. W. W. are examples; and (3) the craft or trade union which limits itself to a single occupation like cigar-maker—many of the unions in the A. F. of L. are examples. Then with regard to aim there are also three kinds: (1) the welfare union which has high ideals of social welfare—the Knights of Labor fall in this category because of their desire

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to abolish the wage system and to provide self-employment through co-operatives ; (2) the revolutionary union with its hope of violently revamping the social order — the I. W. W. was of this sort ; and (3) the business union, which seeks to benefit its own members by securing shorter hours, more pay, and better working conditions as opportunities arise, — obviously the A. F. of L. unions fall in this category.³

Certain truths concerning organized labor in this period stand out. No union which opposed the wage system lasted, and the organization enjoying the greatest success, the A. F. of L., always accepted the wage system. Attempts to organize the unskilled usually failed, but unions were now able to survive major business depressions. The period of most rapid and enduring union growth coincided with the great period of business consolidations — both labor and capital moved in the direction of monopoly at the same time. Probably only 3 to 5 per cent of the working population was unionized in 1900 and about 10 per cent in 1910. Besides the giant A. F. of L. and the colorful Industrial Workers of the World there were the four railroad brotherhoods, a large bricklayers' union, and two textile unions which were beginning to grow rapidly just before World War I, and, of course, numerous smaller independent organizations.

Industrial disturbances.—Although trade unions in the United States have never been formed purely, or even primarily, as strike organizations, this method of enforcing their demands was soon resorted to as they became conscious of their strength. Yet as late as 1874 an American writer could say : "Strikes in this country have not been very serious nor long protracted." Indeed, according to the only available statistics, up to 1867 there were only three years in which more than ten strikes had occurred ; after that time, however, only one year showed a smaller number than ten.

The railroad strikes of 1877 were the first important exhibition of the growing power of labor, and directed public attention forcibly to the industrial problems involved. In that year strikes occurred on the Baltimore and Ohio, the Pennsylvania, and other railroads, which by reason of their

³ W. E. Spahr and others, *Economic Principles and Problems* (New York, 1936), II, 277-78.

magnitude and their far-reaching effects have become historic. Reductions had been made in the wages of the employees to offset the decline in business after the panic of 1873, the tonnage and length of freight trains had been increased, and various other causes for dissatisfaction on the part of the employees had occurred, which finally led to widespread strikes on a number of lines, but especially on the two systems named. Violence was used, property destroyed, and armed conflicts resulting in considerable loss of life took place between the strikers and troops who were called out to maintain order. The country awoke to the fact that our growing industrialism had brought with it serious problems as well as increased wealth.

Strikes became more prominent in the United States as the system of capitalistic industry developed. The high-water mark of the nineteenth century was reached during the "Great Upheaval" in 1886 when the Knights of Labor engaged in numerous violent ones. Three subsequent strikes deserve particular mention.

The *Homestead Strike* of 1892 brought one of the strongest unions of the day, the Amalgamated Iron and Steel Workers, with a membership of 24,000 in 1891, into conflict with the Carnegie Steel Company under the chairmanship of Henry C. Frick. Rather than accept a wage reduction the men struck and a pitched battle between strikers and 300 imported Pinkerton detectives ensued with a dozen or more combatants killed. The strike spread to other steel mills in the Pittsburgh area, but in the end the power of unions in the steel industry was broken for a while. The large modern corporation was too strong.

The *Pullman Strike* of 1894 was another colorful affair. The Pullman Palace Car Company built an apparently model town outside Chicago, but the workers claimed that the landscaping was an advertising stunt and that rents were higher and accommodations poorer than in a near-by town to which they dared not move lest they lose their jobs. This was a depression period and, although wages had been cut, rents had not, so that the men often received but \$1 to \$6 cash for two weeks' work. Despite company hostility several locals of the American Railway Union were organized, and

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when three of the committee who had presented the men's grievances to company officials were discharged, the men struck. Other affiliated unions followed in sympathy and refused to handle Pullman cars, but this support was balanced by the aid brought to the Pullman company by the General Managers' Association, representing twenty-four railroads serving the Chicago area. As the strike spread, hoodlums seized the opportunity to rob, pillage, and burn property. President Cleveland called out federal troops to protect the mails and the General Managers' Association got a sweeping anti-labor injunction restraining the American Railway Union from interfering with the mails, with interstate commerce, or with the business of the twenty-four railroads. Unable to comply, the Union's officers were arrested and the strike was soon broken. Labor learned two lessons: that the government would suppress revolutionary outbursts and that the injunction was a formidable weapon in the hands of employers.

The *Anthracite Coal Strike of 1902* was the third great strike of this era. In it the United Mine Workers' Union, which had recently started organizing the eastern Pennsylvania anthracite coal fields, clashed with a small group of powerful operators already accustomed to acting together in setting prices. The union had enjoyed some initial successes and the operators were determined to stop them, so when existing agreements terminated and the union presented new demands, the operators refused to negotiate. Over 150,000 miners struck and were out all summer. By October a coal famine seemed imminent and President Theodore Roosevelt called leaders of both sides to the White House. A stormy session ensued at which only John Mitchell of the miners kept his temper and the operators arrogantly refused to arbitrate. In the end they gave in only after the President threatened to call out federal troops to take over the mines. The significance of this strike is that a union tying up a strategic industry for months, and greatly inconveniencing the public, could win a strike if they held public sympathy and got government support.

Toward the end of this period the labor unions became more conservative in the use of the strike. As they grew in

strength, their organization improved and they came under the control of more far-sighted leaders. In the most strongly organized trades strikes were relatively fewer, but these were more apt to be successful than those in weakly organized industries. The most prolific cause of strikes was naturally the demand for increase of wages; next to this came the question of hours.

Employers' associations.—Simultaneously with the organization of the wage-earners, employers' associations have appeared. They came into being on a small scale to oppose trade union activities in the thirties and the sixties, but the last quarter of the nineteenth century saw the development of a new purpose and new methods of organization which marked a distinct era in the labor movement in the United States. National employers' associations were formed to cope with the national labor organizations, as these developed. In 1875 the National Potters Association was formed, and a decade later (1886) the Stove Founders National Defense Association; the metal trades came together in the National Metal Trades Association in 1899. In 1895, a national federation of employers' associations was organized as the National Association of Manufacturers, which may be said to correspond, though but distantly, to the A. F. of L. Their labor policy was distinctly hostile to unionism and even to some of the legitimate aspirations of labor.

Although the earlier employers' associations were organized primarily for the extension of trade, they contributed greatly to the maintenance of industrial peace by collective bargaining in the framing of wage agreements with labor organizations. So rapid and so general was the spread of trade agreements between organizations of the two groups that the period from 1898 to 1904 has been called a "honeymoon period of capital and labor."⁴ When a trade agreement is arrived at by collective or joint bargaining, a formal contract is drawn up and signed by representatives of the two organizations, which governs wages, hours, and other conditions of work for a stated number of years. Thus discussion is substituted for dictation. Although this method

⁴ F. R. Commons and associates, *History of Labour in the United States*, N. Y., 1921, p. 524.

involves the recognition of the trade union, it ensures fair treatment to both worker and employer, and usually obviates strikes. The climax of the trade agreement movement was probably reached in 1902 when John Mitchell, the head of the United Mine Workers' Union, refused to call a strike of the bituminous coal miners on the ground that to break their agreement, which had not yet expired, would constitute a breach of faith with the employers.

As the size and power of the labor organizations grew, however, many employers thought they saw in union demands a menace to industry, and employers' associations began to be formed for the explicit purpose of opposing or crushing the unions. These militant associations formed in 1903 a Federated Citizens Industrial Association of America. The forces of the employers were further consolidated in 1907 with the formation of the National Council for Industrial Defense, which was made up of two hundred and twenty-eight national, state, and local organizations of business men. So long as business remained prosperous most of the trade agreements were permitted to continue, but with the industrial depression of 1907-1908 a general disruption began. An open-shop movement now took place, which was especially strong in the steel industry, where unionism was virtually crushed out after the steel strike of 1901. Trade agreements were virtually abolished in the bridge and structural iron industries, in the lake-carrying trade, and in general in those industries where combination had reduced the number of employers. In strictly competitive trades, trade unionism was able to hold its own, and after 1910 the number of trade agreements increased.

Labor legislation.—It has come to be recognized that labor is not a mere commodity to be bought and sold on the market like other commodities, and consequently that the wage contract differs from ordinary price contracts in several respects. The latter are between property-owners and concern insensate things for the most part. The former is a bargain which involves not only wages, but also conditions of work, hours, speed, safety, with possibilities of fatigue, accident, disease, and even death. Since these are matters which affect the well-being of society itself, the state

asserts the right to legislate regarding them. This enlightened view is, however, comparatively recent, for little significant labor legislation to protect labor and guarantee its rights appeared before 1882. The labor legislation previous to the Civil War was practically confined to the subjects of imprisonment for debt, mechanics' liens, the education of children employed in factories, and similar matters. So long as the possibility of settling on the public lands existed, the need for taking active steps to protect the interests of labor had not been recognized. The idea prevailed, moreover, that if the government, by means of the protective tariff, gave opportunity for the profitable investment of capital, then employment would be provided and labor benefited.

The first positive labor legislation was designed to protect the weaker members of the wage-earning class from exploitation. In 1866 Massachusetts, which was one of the first states touched by the industrial revolution, took the lead in this direction by the passage of an eight-hour law for children under fourteen years of age. A little later (1869) an act was passed providing for the establishment of the first bureau of statistics of labor. Other laws followed, fixing the hours of labor for women and for young persons under eighteen years of age at sixty per week, and providing for factory inspection and the safeguarding of dangerous machinery. Similar legislation was enacted in other states, directed for the most part to protecting the interests of the weaker members of the industrial body; but the efficient administration of the laws followed their enactment rather tardily.

Not until the beginning of the twentieth century was any really effective legislation enacted for the protection of children at work in factories. In 1903 Illinois passed a pioneer child-labor law forbidding the employment of children under fourteen in factories and requiring that they remain in school until that age. The example of Illinois was promptly followed by other states and a higher level of child-labor legislation was reached. These laws usually prohibited employment, or limited the hours, set an age limit, prohibited night work, or compelled education.

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Protective legislation for women workers paralleled that for children. New Hampshire is usually credited with the passage of the first legislation of this kind in the ten-hour law of 1847, but the first really effective act was a similar law by Massachusetts in 1874. By the close of the century a number of other states had followed this example. These early laws, however, were frequently declared unconstitutional on the ground that they interfered with the right of freedom of contract.

Of legislation in favor of adult male workers there was practically no sign until the end of the nineteenth century. The redress of their grievances was left to them to obtain by their own efforts. In this fact lies the keynote of the history of labor during this period, and one of the causes for the organization of labor. The very qualities which made the American worker such an efficient producer disinclined him to rely upon the government to improve his condition, but led him to trust rather to his own efforts for self-help. Government interference was accordingly not invoked to regulate the freedom of the wage-contract or of employment, which was regarded as a constitutional right ; but legislative protection was extended to the working classes by factory legislation and inspection, and by laws regulating child labor, hours, and conditions of labor. Down to 1900 about half the states had passed factory acts regulating the conditions of labor in factories and providing for their enforcement by the appointment of factory inspectors. These laws generally provided for sanitary conditions and sufficient air space ; for the health and safety of the employees against fire, unhealthfulness of the work, and danger from machinery ; and for other forms of protection to the life, well-being, and morality of the employees. Legislation for the control of industrial accidents and occupational diseases became more general as their evils and avoidable character were better understood. The usual method of dealing with these questions was that of regulation of the conditions of employment ; the complete suppression of the industry or exclusion of workers, except children and sometimes women, was unusual.

While legislation regarding hours of labor today dates back almost seventy-five years the ideal of an eight-hour day

was still far from being realized in 1900, although the working-day had been appreciably shortened in fact. Legislation limiting the length of the working-day in private establishments in the field of manufacturing was confined almost exclusively to women and children, but this was very general. There was little legislation to protect the workers against low pay. Minimum wage legislation is of recent growth and has frequently been declared unconstitutional by the courts, especially where it was designed to prevent the wages of men from falling below a reasonable level.

Labor and the courts.—Under the American system of jurisprudence, according to which the courts pass upon the constitutionality of legislation, many of the statutes designed to protect the workers in their struggle for higher standards or better conditions have been declared unconstitutional. Only gradually and by determined effort has labor achieved the advances recorded in the preceding paragraphs. Not only have the judges been more conservative than the legislators, who have readily responded to the demands of the people, but they have until recently expounded an individualistic legal philosophy and an economic doctrine of free competition. The Fifth and again the Fourteenth Amendments of the Constitution declared that no one could be "deprived of life, liberty, or property without due process of law," and the courts, basing their decisions on this provision, have annulled many labor laws as an infringement of liberty, an abridgment of the freedom of contract, or as class legislation.

Down to the end of the nineteenth century the courts usually held unconstitutional laws fixing the hours of labor for men, and sometimes even for women, on the ground that they interfered with freedom of contract. Beginning about 1898, however, a new stage in the development of public opinion and judicial decisions on this subject set in, which Professor Commons calls the public benefit period of labor legislation. The health of the producer was now held by the courts to be a public benefit and laws passed to protect him were approved. This protective legislation was sustained by the exercise of that elastic power of the state known as the "police power," which enabled the state to limit or even de-

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stroy private rights of property and contract in the interest of the public welfare. Labor legislation accordingly covers almost every phase of the labor contract.

The attitude of the courts during this period and also the period since 1914 may be summarized under seven headings. In the matter of *hours* the Supreme Court upheld an Oregon ten-hour law for women, a Utah eight-hour law for men working in mines, and a Kansas eight-hour law for men on public works, but threw out a New York eight-hour law for bakers: the bakers were judged able to care for themselves and did not need special protection in their profession. Little attention was paid to *minimum wages*; Massachusetts passed the first law only in 1912 followed by eight other states in 1913, and it was some time before such laws were tested before the courts. *Freedom of contract* for the worker seemed of particular interest to the employer who enjoyed the privilege of binding his men with the so-called "yellow-dog" contract. By this the worker agreed not to join a union while in the employ of the company offering him the job. The Supreme Court refused to uphold federal legislation outlawing the "yellow-dog" contract. The *injunction* was an effective device used by the employer after a dispute was underway. An injunction is a court order to refrain from causing damages which cannot be made good afterward, or to perform some act by way of correction. It is a preventive order and stands in contrast to a damage suit which is for injuries already suffered. Courts sometimes took the attitude that the employer had a right to carry on business without interruptions that might interfere with his ability to fill orders. They then enjoined boycotting, picketing, and striking because of the loss of income or other property damage caused. How sweeping the injunction was depended considerably on the social philosophy of the judge. Failure to heed an injunction was contempt of court: President Eugene Debs of the American Railway Union served a six months' jail sentence for this after the Pullman Strike. A type of injunction particularly obnoxious to labor was the blanket injunction which applied not only to the persons addressed but to anyone who heard about it. First used in the eighties, the injunction did not gain wide publicity until the Pullman

Strike of 1894. Thereafter it was frequently employed, a notable example being the Buck Stove and Range Company dispute in which the American Federation of Labor was enjoined from placing this company on its "We Don't Patronize List." Samuel Gompers ignored the order, was cited for contempt of court, and escaped only after eight years of litigation. The *secondary boycott*, on the other hand, was a weapon which capital tried to wrest from the hands of labor. This type of boycott usually represented an attempt by workers to force third parties, say retailers, to cease handling the employers' product. In the famous Danbury Hatters' Case the company successfully sued the union under the Sherman Anti-trust Act and recovered heavy damages. Likewise in the Buck Stove and Range case a union indulging in the secondary boycott found itself in serious difficulties.

The public and the court's attitude toward *employer's liability* for accidents changed markedly during this period. While worker and employer had labored side by side and had known each other, this had not appeared as a problem, but now the two saw little of each other and the existing laws were so unjust that as late as 1910 the National Association of Manufacturers criticized the system as "antagonistic to harmonious relations between employers and wage workers."⁵ Under the common law as it had developed in the nineteenth century, an employee had an infinitesimal chance of recovering damages from his employer. The latter had three chief defenses: (1) that the employee knew the dangers of the occupation and assumed the risks when he took the job; (2) that the employee himself was at least partly responsible for the accident; and (3) that a fellow worker had been responsible. Moreover, if the employee died, his widow might be told that the right of action expired with her husband. But even assuming the employee got past all these and several more defenses, it would require a long and expensive suit at the end of which his lawyer's fees might devour most of the damages. The first attacks on this system were by the states: Georgia in 1856 and Iowa in 1862 abolished the fellow servant rule for railroad accidents, Colorado

⁵ National Association of Manufacturers, *Proceedings of 15th Annual Convention* (New York, 1910), 280.

was the first to eliminate the defense altogether, and by 1910, twenty-three states and the national government had laws covering employers' liability. Finally in 1912 the Supreme Court upheld a federal statute making railroads engaged in interstate commerce liable for accident to employees. It seems highly unjust to ask a single employee to bear the costs, economic as well as physical, for an injury he may well have been unable to prevent: far better is it to assess the employer and let him pass it on to the customer as one of the costs of the industry.

Child labor laws had been strenuously urged in the 1880's by the Knights of Labor, but after that the movement died down until the Theodore Roosevelt era of reform. By 1909 all but six states had some kind of law restricting the use of children in factories, although in 1914 only 9 states had met the reasonable requirements of the National Child Labor Committee. No federal law had been passed and no court decisions of consequence had been handed down on this subject.

Wages and the cost of living.—One of the claims of organized labor is that as a result of its efforts wages have been raised. Whether this is true or not, it can hardly be disputed that the general tendency of both nominal and real wages in the United States during the entire history of the country has been upward. How much they have risen at specific periods depends on the method of measurement, and there are many of these, none perfect, but each with its advantages. We shall briefly consider only three. First, the simplest, most often used, and yet most deceptive is *hourly wages*; that is, the amount a laborer gets for one hour's work. A moment's thought will suggest that this omits consideration of part-time employment, the ever shortening work-week, unemployment, and many other factors. Second, and far more indicative of conditions, although more difficult to collect information upon, is *average annual earnings of employed workers*. This has the advantage of taking into account such things as seasonal employment, pay for overtime, and bonuses. But it gives a false picture of conditions among workers in general since it tells only about the employed and ignores completely his unemployed fellow

worker who may be in desperate straits. So a third method has been devised which attempts to measure the *average annual earnings of active members of the working class*; that is, of those who want jobs and will work. One result of making this allowance is the presentation of a less favorable picture of conditions in a depression time than the other methods give.⁶

None of the above methods takes into account changes in price level, which is extremely important. For example, a worker whose wages rose one-half while prices doubled would be only three-quarters as well off as before. And since wages have a tendency to lag behind prices, such situations often do arise. Consequently, the three methods considered above must all be reduced to terms of real wages. This is done by dividing money wages by the cost of living; that is, by the cost of some accepted list of commodities and services essential for existence. In this way it is possible to compare the living conditions of workers in several different periods.

However, even real wages will give only a general picture of the situation and, like any average, may fit the actual condition of only a small segment of the whole working class. After all, there is a wide variation in the abilities of different workers, especially when work is being done on a piece basis. Also there exists a big difference in the pay received by various pursuits: farm-hand, miner, factory worker, railroad engineer, painter, ditch-digger, government clerk, and schoolteacher do not fare alike.

Professor Hansen's real wage figures are perhaps the best for the period before 1890, although they must be judged crude since sheer lack of data obliged him to depend on daily wages instead of annual earnings and on wholesale instead of retail prices. These figures, appearing on page 586, show a marked gain in real wages during the six years following the Civil War, a gain which was held during the depressing seventies and during a consequent period of improvement in the eighties. It is noteworthy that this rise was owing, not to an increase in money wages — at times they actually fell — but to a steady decline in the cost of living. The period from

⁶ Much of the above has been drawn from H. A. Millis and R. E. Montgomery, *Labor's Progress and Problems* (New York, 1938), chap. 1.

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1865 to 1896 was one of falling prices ; wages lagged far behind, and so the wage-earner gained ; but it would be a mistake to assume that that was the only reason his position improved.

MONEY WAGES, COST OF LIVING, AND REAL WAGES IN THE UNITED STATES, 1860-1890* (1913=100)			
<i>Year</i>	<i>Money Wages</i>	<i>Cost of Living</i>	<i>Real Wages</i>
1860	47	82	1
1865	72	191	38
1868	79	143	55
1871	86	112	77
1874	82	107	77
1877	68	93	73
1880	66	86	77
1883	71	88	81
1886	70	77	91
1889	73	81	90
1890	74	77	96

* A. H. Hansen, "Factors Affecting the Trend of Real Wages" *American Economic Review* (March, 1925), XV, 32. Reproduced by permission of the author.

Professor Douglas' figures begin in 1890 and provide a more detailed picture of a less changing period. Real hourly earnings showed a gradual upward trend to 1914, but real average annual earnings of wage-earners in all industries exhibited little change, to a considerable extent because by 1914 men were working about five hours a week less than in 1890. If allowance be made for unemployment, it appears that the workers in manufacturing and transportation were worse off in 1914 than in 1890, although it should be noted that 1914 was a minor depression year. In general the unskilled suffered more in poor times than the skilled workers. An examination of the comparative gains of various occupations, although it does not allow for unemployment, is also revealing. Teachers made the greatest advance and were followed by farm laborers, salaried and clerical workers in manufacturing and transportation, and building trades workers in that order. The gains of teachers and farm laborers were long overdue as both had been poorly paid the previous genera-

RELATIVE REAL ANNUAL EARNINGS IN MANUFACTURING AND
TRANSPORTATION OF THOSE ATTACHED AND THOSE EMPLOYED*
(1890-1899 = 100)

<i>Year</i>	<i>Those attached</i>	<i>Those employed</i>
1890	106	100
1893	101	101
1896	92	98
1899	102	99
1902	107	100
1905	108	101
1908	94	96
1911	103	98
1913	107	102
1914	99	101

* P. H. Douglas, *Real Wages in the United States, 1890-1926* (New York, 1930), 465. Courtesy of Professor Douglas and of Houghton Mifflin Co.

tion. Wage-earners in manufactures, public utilities, and railroads, coal miners, postal employees, and unskilled laborers about held their own; and government employees other than in post offices and ministers were distinctly worse off, especially the former.⁷

On the whole, the position of the wage-earner, especially if he had work, was better in 1914 than in 1865. At the same time the hours of labor had been shortened from an average of about 11 in 1865, to 10 in 1890, and to 9 in 1914, and a vast array of new goods was being produced which fifty years before had been unknown.

Labor in the South.—Still another problem was presented by the labor situation in the South. The efforts to organize the freedmen as wage-earners after the Civil War and the failure of that system have already been described.⁸ It became evident that the freedmen did not understand how to use their liberty, and that the best solution of the problem would be to give the Negroes an interest in the crop and make them at least partly responsible for the consequences of their idleness. To secure this result the share system, or

⁷ P. H. Douglas, *Real Wages in the United States, 1890-1926* (New York, 1930), Part II, *passim*.

⁸ See Chapter XIX, p. 490.

"cropping system," was extended throughout the greater part of the South. While this system secured better results than the preceding wage system in stimulating the interest of the Negro, it led to a more rapid deterioration of the land.

The labor force in the South consisted primarily of Negroes, most of whom worked at agriculture. According to the census of 1890 over 85 per cent of the male and 96 per cent of the female Negro population at work in the country were engaged in agriculture and domestic service. The question of the efficiency of this labor was therefore a vital one for the South. Was the Negro as efficient a worker as the white man under the same conditions? Was his labor improving? The mass of testimony on both these points was in the negative, although there was, it must be admitted, great diversity of opinion. As the industries of the South became more diversified, the Negro seemed to lack the energy and intelligence to occupy the new positions. In agriculture he confined himself almost exclusively to the cultivation of cotton (70.5 per cent of Negro farms raised cotton as the principal source of income in 1900, against 10.9 per cent of similar farms cultivated by whites). Even the special skills that were possessed by the Negro agricultural laborers, who had received their training under slavery, in cotton, tobacco, and rice culture, were lost by the succeeding generation. There was thus a real loss in the industrial efficiency of Negro labor: the skilled laborer became an unskilled one. On this point Booker T. Washington wrote: ⁹ "I do not mean to say that all skilled labor has been taken out of the Negro's hands; but I do mean to say that in no part of the South is he so strong in the matter of skilled labor as he was twenty years ago."

Vigorous efforts, led by Booker T. Washington himself, were made in the South to educate the Negro along lines of industrial efficiency and to make him a more reliable and competent worker. Encouraging as were the results, it was manifest that any such work of improvement must be slow and laborious. Toward the end of this period there was a considerable influx into the southern states of immigrants, notably Italians, who supplied an increasing share of the

⁹ *Future of the American Negro* (Boston, 1900), 87.

labor needed in the industrial regeneration of that section, and even competed with the Negro in the cotton fields. The native white population supplied most of the labor required by the new cotton factories, steel mills, etc., in which, owing to the lack of restrictive factory legislation, many of the abuses attendant upon the early growth of the factory system elsewhere were being reproduced.

Conclusion.—In spite of difficulties in obtaining complete recognition of unionism from the employers, of halting legislation, and sometimes of hostile judicial decisions, labor made steady and in the latter part of the period rapid progress in raising its standards and improving its conditions both of work and of living. Some of these have already been described, but further evidence is readily obtainable. The material progress of the people can fairly accurately be gauged by their consumption of certain semi-luxuries like tea, coffee, sugar, tobacco, etc., all of which showed a steady increase. Thus in the United States between 1871 and 1903 inclusive, the per capita consumption of coffee increased from 7.91 to 10.79 pounds, that of sugar from 36.2 to 71.1 pounds, that of tobacco from 4.00 to 4.91 pounds, and that of wheat and flour from 4.69 to 5.81 bushels. Other articles of convenience or even luxury, unknown at the earlier date, were now generally purchased by the workers, such as household appliances, plumbing, central heating, and other things. When to these statistical evidences of well-being are added such items as improved houses, better and more frequently renewed clothing, more thorough education, and more abundant leisure, it is evident that a great advance in the lot of the worker had taken place since 1860.¹⁰

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Voluminous though it is, the literature on labor is unsatisfactory, for it is usually extremely partisan. For this reason government reports and books by students of the subject are most reliable, since they are generally free from bias. The first comprehensive government investigation of labor conditions is the *Report of the Industrial Commission* appointed by President McKinley in 1898 (19 vols., Washington, 1900-1902). This

¹⁰ For details see E. L. Bogart and C. M. Thompson, *Readings in the Economic History of the United States*, N. Y., 1916, 813-847.

may be supplemented by the *Report of the Commission on Industrial Relations*, 64th Cong., 1st sess., Sen. Doc. No. 415 (11 vols., Washington, 1916). The publications of Bureau of Labor (after 1913 the Bureau of Labor Statistics) are invaluable for current information as to conditions of labor; these include the annual *Report of the Commissioner of Labor* from 1884 to 1913, the monthly *Bulletin*, and the monthly *Labor Review*. Of non-governmental publications the best and most scholarly work is that of John R. Commons and associates, *History of Labor in the United States* (2 vols., New York, 1921). This does not go beyond about 1896, but co-authors have continued the work in two more volumes, *History of Labor in the United States, 1896-1932* (New York, 1935), Don D. Lescohier treating "Working Conditions" and Elizabeth Brandeis discussing "Labor Legislation" in volume 3, and Selig Perlman and Philip Taft handling "Labor Movements" in volume 4. The last two volumes of Commons' *Documentary History of American Industrial Society* (10 vols., Cleveland, 1910-11), cover the period from 1860 to 1880.

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The literature on the labor movement is voluminous and only a few books can be mentioned. George E. McNeill, *The Labor Movement—The Problem of To-day* (Boston, 1887) is written by one of the earliest state labor officials; Terence V. Powderly, *Thirty Years of Labor* (Columbus, Ohio, 1889) is semi-historical and semi-rhetorical but contains valuable information about the Knights of Labor of which he was Grand Master. More careful is the autobiography of the president of the American Federation of Labor, Samuel Gompers, *Seventy Years of Life and Labor* (New York, 1925). These may be checked by N. J. Ware, *The Labor Movement in the United States, 1860-1895* (New York, 1929), which is concerned primarily with the Knights of Labor; and L. L. Lorwin, *The American Federation of Labor* (Washington, 1933). A stimulating account, frankly based on Commons' *History*, by one of the co-authors, is Selig Perlman, *A History of Trade Unionism in the United States* (New York, 1922).

A brief sketch is Mary Beard, *A Short History of American Labor Movement* (New York, 1920), which may be supplemented by G. G. Groat, *Introduction to the Study of Organized Labor in America* (New York, rev. ed., 1926). Leo Wolman, *Growth of American Trade Unions*,

1880-1923 (New York, 1928) is a careful study. More specialized studies on particular phases of the labor movement are C. E. Bonnett, *Employers' Associations in the United States* (New York, 1922); P. F. Brissenden, *The I. W. W., a Study of American Syndicalism* (New York, 1919); G. G. Groat, *Attitude of American Courts in Labor Cases* (New York, 1911); Felix Frankfurter, *The Labor Injunction* (New York, 1930); Edward Berman, *Labor and the Sherman Act* (New York, 1930); and R. F. Foerster and E. H. Dietel, *Employee Stock Ownership in the United States* (Princeton, 1926).

Two important strikes may be studied in the *Report to the President on the Anthracite Coal Strike of May-October, 1902* (Washington, 1903), by the Anthracite Coal Commission appointed by President Theodore Roosevelt; and U. S. Strike Commission, *Report on the Chicago Strike of June-July, 1894*, 53rd Cong., 2nd sess., Sen. Doc. No. 7 (Washington, 1894).

On the subject of labor legislation it is sufficient to cite J. R. Commons and J. B. Andrews, *Principles of Labor Legislation* (New York, rev. ed., 1936), the outstanding work.

Valuable material on wages and the cost of living is contained in the *Report of the Industrial Commission* (19 vols., Washington, 1900-1902). A careful study is *History of Wages in the United States from Colonial Times to 1928* (Bulletin No. 499, Bureau of Labor Statistics, Washington, 1929). The first study of this kind was the so-called Aldrich Report on *Wholesale Prices, Wages, and Transportation*, 1840-1890, 52nd Cong., 2nd sess., Sen. Doc. No. 1394 (4 vols., Washington, 1893), but this was based on insufficient data and was faulty in interpretation. Two careful statistical studies are W. C. Mitchell and associates, *Income in the United States, Its Amount and Distribution, 1909-19* (2 vols., Bureau of Economic Research, New York, 1921-22), and R. F. Martin, *National Income in the United States, 1799-1938* (Nat. Ind. Conf. Bd. Studies, No. 241, New York, 1939). Two other studies of wages for the latter part of this period, which supplement each other, are Whitney Coombs, *The Wages of Unskilled Labor in Manufacturing Industries in the United States, 1890-1924* (New York, 1926), and P. F. Brissenden, *Earnings of Factory Workers, 1899 to 1927* (Census Monograph No. 10, Washington, 1929). The most scholarly synthesis of wage and hour studies is H. A. Millis and R. E. Montgomery, *Labor's Progress and Some Basic Labor Problems* (New York, 1938), which gathers its material on wages largely from A. H. Hansen's "Factors Affecting the Trend of Real Wages," *American Economic Review* (Vol. XV, March, 1925), and from P. H. Douglas, *Real Wages in the United States, 1890-1926* (New York, 1930).

CHAPTER XXIII

TRANSPORTATION AND COMMUNICATION

Railroad building.— Cheap and rapid systems of transportation have been a necessity over the enormous distances of the American continent, and the railroad has therefore attained here an importance greater than in any other country in the world. "For years," says a recent writer, "the history of the railroads was the history of the country." The great need of the country in 1860 was adequate transportation facilities, which were considered to be the key to economic progress, for only as they were built could the undeveloped West be opened up. The building of the great trunk lines and of the transcontinental railroads, which linked together the various sections of the United States by a unified transportation system, was the most important economic achievement of this period. In no country has the growth of railroads so directly affected the life of the people or the development of staple industries. Their building led to agricultural expansion, to foreign trade in grain, to the growth of domestic markets for manufactures, to rapid immigration and settlement, to large-scale production, and to urban concentration. Railroads were both a cause and an effect, but always a necessity.

The transcontinental railroads and government aid.— One of the most significant and dramatic railroad events of this period was the completion of the first transcontinental line and the launching of others. This matter had been under discussion in Congress for years, and in 1853 a survey of the most practicable route was authorized. But the southern states wanted a southern route and the northern states wished a northern one, and nothing was done until the withdrawal of southern members from Congress gave the northerners a free hand. Events now made such a road, more-

over, a military and political necessity. One of the military plans of the Confederate states was to invade Colorado and California from Texas in order to seize the mines and obtain a supply of the precious metals. If the North was to meet this threat it must have railroad connections. Accordingly, in 1862 Congress passed an act, amended in 1864, to aid in the construction of a railroad to the Pacific. These acts gave to the Union Pacific, which was built from Omaha to a point near Ogden, Utah, some 12,000,000 acres of land, and to the Central Pacific, which was built eastward from Sacramento to connect with the Union Pacific, about 10,000,000. In addition to the grants of land the two roads were given government bonds, secured by a second mortgage, in amounts varying from \$16,000 a mile on the level plains to \$48,000 for the mountainous stretches; in all they obtained over \$27,000,000. The junction of these roads was effected at Promontory Point, Utah, on May 10, 1869, and was the occasion for general rejoicing.

A way had now been found, it seemed, by which needed railroads could be built with federal aid. In view of the prevailing individualistic philosophy, government ownership and operation were impossible, and there were constitutional scruples against government subscriptions to railroad stocks. But in the public domain lay the largess which could fill the treasuries of the companies and aid them to build roads which, in the nature of things, must for some time remain unremunerative. Lavish grants were accordingly made.

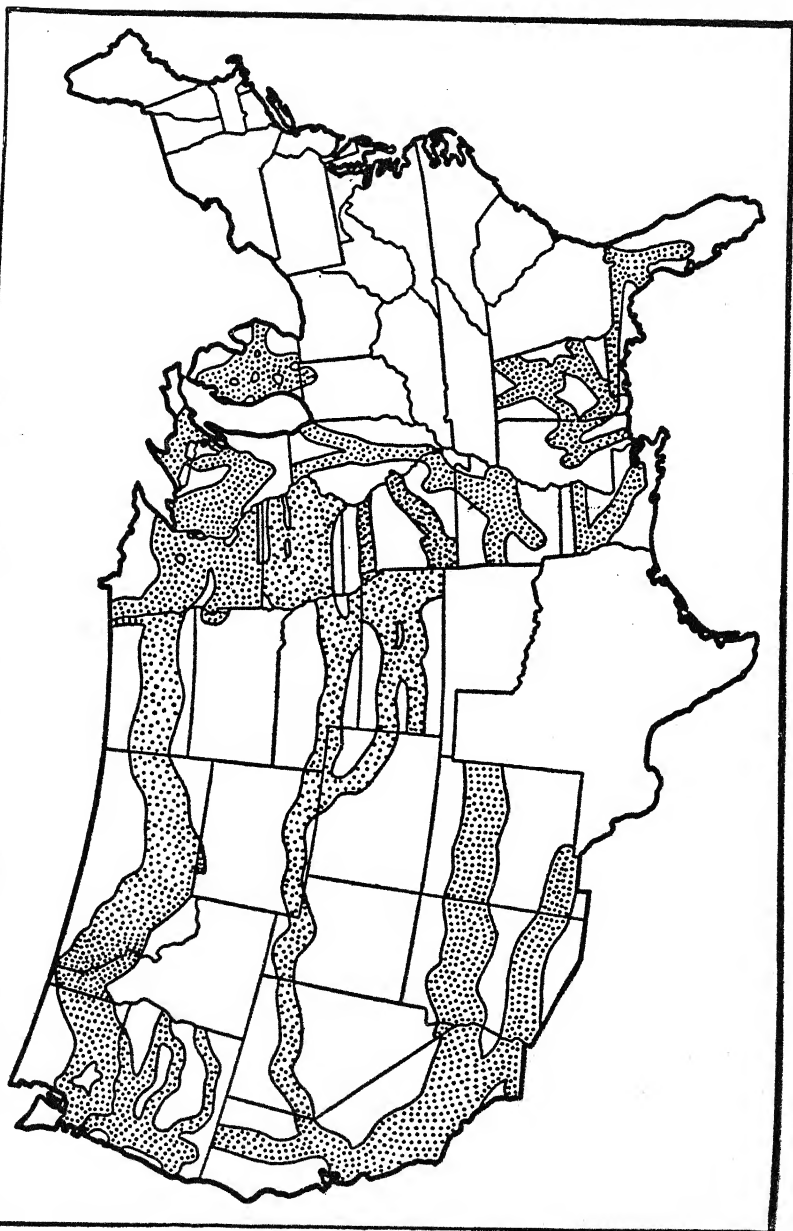
The pattern for such grants had been set in 1850, when the state of Illinois transferred to the Illinois Central alternate sections of land in blocks extending six miles on either side of the railroad—land which had previously been given to the state for this purpose by the federal government. Since the transcontinental roads ran for the most part through the territories, Congress made direct grants of land to them in those areas. The Northern Pacific, chartered in 1864, was allotted the largest total grant, some 39,000,000 acres. The Southern Pacific, with its grant of twenty alternate sections per mile of road built through the states and forty sections in the territories, obtained the richest gift. The Atchison, Topeka and Santa Fé and the Texas and Pacific

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also received land grants. Between 1850, when the federal government inaugurated its policy of land grants to railroads, and 1871, when it discontinued it, more than 158,000,000 acres were placed at the disposal of railroad corporations by the federal government and 55,000,000 acres by the state governments. Not all of the land thus granted was actually obtained by the railroads, as they did not fulfill the conditions of the grants by actual construction, but about 129,000,000 acres were eventually certified to the land grant roads.

But grants of land, which were not received until after the roads were built, would not pay contractors, laborers, and suppliers of material. For this purpose money was needed, and this was obtained for the most part by the sale of bonds, many of which were purchased by British and some by German and other foreign investors. "Until the panic of 1873," wrote Ripley, "European investors bought our railway securities eagerly." Common stocks usually represented so much water in the railroad capitalization, based on the hope of future profits, and were given as a bonus with the bonds; but sometimes contractors accepted them at an enormous discount in part payment of their services. Most of the capital was thus supplied by private individuals. The heavy bonded indebtedness involved in this method of raising funds resulted later in frequent financial disaster to the railroads and of loss to the investors.

Railroad expansion.—The Civil War checked railroad building in the South, where much of the track and rolling stock was destroyed, but gave an impetus to that in the North. It was during this struggle and partly as a war measure that the first transcontinental railroad was begun. Economic integration was necessary if political unity was to be achieved. During the decade 1860-70 the greatest amount of railroad building took place in the states of Iowa and Illinois; for the country as a whole the operated mileage almost doubled—from 30,626 in 1860 to 52,922 in 1870. The years 1868-1872 in particular were years of extraordinarily rapid growth, especially for the upper Mississippi Valley. Railroad extension was again interrupted by the crisis of 1873, which was in large measure caused by the too



THE WESTERN RAILWAY LAND GRANTS, 1850-1871 From Conference Board Studies in Enterprise and Social Progress

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rapid railroad construction and the intense speculation attending it, but by 1878 it began to revive, and the end of the decade saw the mileage again nearly doubled ; by 1880 there were 93,262 miles of railroad in the United States. This increase of nearly 75 per cent in ten years far outran the growth in population, which was only 30 per cent in the same period. Most of the new construction took place in the northwestern states and provided an outlet for the grain which these regions were beginning to pour into the world's markets ; but considerable building occurred also in the South and Southwest. The building of the railroads, too, both facilitated and was demanded by the enormous immigration which at this time began to fill up our western territory. During this decade the population of the Northwest increased 44 per cent and that of the Pacific states 114 per cent. Many of the former were Scandinavians, who left their Old World homes in such numbers that by the end of the century the Scandinavians in the United States were equal in number to about one-quarter of the combined population of Denmark, Norway, and Sweden.

The ten-year period 1880-90 witnessed the greatest expansion of the railroad net that had as yet taken place : from 93,262 miles in 1880 to 156,414 in 1890, or the building of 63,000 miles of railroad in a single decade. This was an unparalleled achievement. The construction was carried on chiefly in the central and western states, especially in Kansas and Texas, where the agricultural and mining wealth was being developed, and where transportation facilities were most needed. Three transcontinental railroads achieved through connections, the Atchison, Topeka and Santa Fé in 1881, the Southern Pacific in 1882, and the Northern Pacific in 1883. Construction was slowed up by the crisis of 1884, which was brought on by the too rapid and speculative railroad building of the years immediately preceding.

By 1890 the country seemed to be pretty well supplied with railroad facilities, and after that construction was less rapid. Only one new transcontinental line was built—the Great Northern, which was completed from St. Paul to Seattle in 1893 under the leadership of James J. Hill, one of the ablest railroad executives of this period. The crisis

of 1893 and the resulting depression again retarded railroad growth and forced the railroads not merely to curtail new building, but to practice the most rigid economies. Nevertheless, by 1900 the railroad net contained 193,345 miles.

The period of rapid railroad construction came to an end with the nineteenth century ; since that time there has been a slower growth. Between 1900 and 1916 the railroad net grew to 259,705 miles of line (the highest point in our history) or an average of about 4200 a year. The most important addition was the completion of the Chicago, Milwaukee, and St. Paul from Chicago to Seattle in 1909. There were now within the United States some six distinct transcontinental railroad systems, while two others stretched from ocean to ocean across Canada.

Track and equipment.—Improvements in track and equipment kept pace with the growth in mileage, and made the railroad system of 1914 a much more efficient instrument of commerce than was that of 1860. Two features of American transportation differentiated railroads in this country from those in Europe, and impressed upon them certain distinctive characteristics. These were the nature of the traffic and the great distances between areas of production and markets. Over three-quarters of the freight tonnage consisted of heavy, bulky articles, such as coal, gravel, iron, lumber, grain, livestock, and petroleum. It is evident that heavier rails, bridges, and cars were needed than where the traffic consisted of light general merchandise. Even more necessary before such goods could be moved profitably were speed in transportation and low rates. Consequently, the history of American railroad development since 1860 was in all these directions.

Probably no other single influence was so effective in reducing the cost of transportation and improving the general condition of the track as the substitution of steel for iron rails. By 1860 the old wooden rails surfaced with iron had been almost completely displaced by iron rails, though there were a few railroads in the southern states still using the former at that date. The iron rails were short and light, being about 16 feet long and weighing 192 pounds. The first steel rails used in this country were imported from

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England in 1863 by the Pennsylvania Railroad, at a cost of about \$150 a ton. For a time the high cost prevented their general use, but after 1870 the cost of rolled steel was greatly reduced and steel rails began to be manufactured generally in the United States. As late as 1880 only one-fourth of the mileage of railroad track was laid with steel rails, but in 1910 only 880 tons of iron rails were manufactured in this country and the few still in use were fast wearing out. The steel rails were 10 to 15 times more durable than iron rails, they supported heavier loads, and they permitted greater speed. Rails became steadily longer and heavier, until 60-foot rails weighing 2000 pounds were not uncommon. The mounting cost of wooden ties led some roads to experiment with steel ties, but these did not prove successful. By the close of the eighties the standard gauge of 4 feet 8½ inches had been adopted by practically all the railroads; and after that the permanent way was improved by reduction of grades, better alignment of track, and improved drainage and ballasting. Along with improvement in the track, the bridges and other structures were strengthened to meet the demands of the increasing traffic. Iron bridges were built to replace the wooden ones, and these in turn were supplanted by steel bridges.

With the increase of railroad transportation there came a need for locomotives of greater power. Since the tractive force exerted can be augmented by increasing the weight resting on the driving wheels, there was a tendency to construct heavier locomotives. The use of steel in construction made it possible to increase the size, weight, and power; one of the later types weighed 340 tons. These in turn made possible the larger trainloads that were characteristic of this country of magnificent distances, and the consequent reduction of rates. The construction of all-steel passenger and freight cars permitted much greater speed and at the same time decreased the danger of travel. The capacity of the typical freight car was also greatly enlarged, and in other respects the railroad system was improved to meet the constantly growing demands of our internal commerce.

Railroad service.—The transportation service of the railroads comprises the movement of freight, the carriage of

persons, and the transmission of express and mail matter. Of these the freight service is much the most important, for the exchange of goods increases with the expansion of production and the territorial division of the labor. About 60 per cent of the tonnage consisted of products of the mines — coal, clay, gravel, iron and iron ore, petroleum, etc. — while about 15 per cent more was made up of lumber, grain, livestock, and other heavy agricultural articles shipped in large quantities. Railroads were a necessity for moving these goods from the points of production to the markets, usually a long distance away, and the chief object in railroad building was to provide these facilities as speedily and as cheaply as possible. Our railroads were built to fit this kind of traffic, and frequently the short-distance, small-package freight was neglected, being taken over in turn by the express companies and interurban electric railways.

Various improvements were made along other lines. Among these may be mentioned the establishment in 1883 of four time zones in each of which a "standard" time was observed, the districting of the country into districts for purposes of freight classification, and the interchange of freight cars by different lines. Since much of the freight transported was handled in large quantities and hauled long distances, the tendency was to build larger freight cars. About 1870 the average freight box-car in the United States had a capacity ranging from 16,000 to 24,000 pounds; by 1900 pressed steel cars with a capacity of 100,000 pounds were in common use. The total amount of traffic carried increased from an annual average of 692 million tons in 1891-1895 to 1903 million tons in 1911-1915. As the capacity of the railroads to care for the increasing traffic grew, and also the size of the units handled, the terminal facilities for handling freight, especially ore and grain, were greatly improved. Electric cranes, elevators, and other labor-saving devices for handling these commodities in bulk were introduced at terminal stations to an increasing extent, and corresponding economies in loading and unloading the cars were effected.

Pullman sleeping cars, dining cars, and parlor cars were introduced after 1860 and were constantly improved. By the beginning of the twentieth century the passenger on a

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fast through train on an American railroad could probably travel more luxuriously than in any other country in the world. The use of vestibule trains, better constructed steel cars, and improved methods of heating and lighting contributed greatly to the comfort of traveling. Speed was increased as track and equipment were improved and by 1910 the limited trains of the trunk lines covered the 1000 miles between New York City and Chicago or St. Louis in approximately 20 hours. At the same time greater safety was assured the traveling public by the introduction of the block signal system, and of automatic train-brakes and couplers; although these appliances dated only from the eighties, almost all passenger cars were equipped with them by the end of this period.

Rates.—These various improvements made it possible for the railroads to transport the increasing number of passengers and volume of freight at lower rates and thus to benefit both producers and consumers. The four decades after the Civil War saw a progressive reduction in the charges for transportation services. The decline in rates was brought about by the competition among the railroads themselves, by the competition of the railroads with water routes, and finally by the competition among various productive centers in different parts of the country. Freight rates declined more rapidly than passenger fares, especially for the through traffic; this was made possible largely by the various improvements in the equipment and management of railroads just described. The average freight rate per ton-mile was 1.93 cents (gold) in 1867; fifteen years later it was 1.24 cents, and in 1900 it was .73 cent. The extent of this reduction is more clearly brought out by comparing the rates on wheat from Chicago to New York City, which are shown in the table on the opposite page.

The effect of these low rates was soon seen in the development of the West, the shifting of cereal production entirely from New England and largely from the north Atlantic states to the central and northwestern states, and the diversion of traffic from the lake and canal routes to the railroads. So long as railroad rates were high the major part of the agricultural products and other bulky heavy freight was trans-

AVERAGE ANNUAL RATES ON WHEAT FROM CHICAGO TO NEW YORK CITY			
Year	<i>Wheat (average rates per bushel in cents)</i>		
	<i>By lake and canal</i>	<i>By lake and rail</i>	<i>By all rail</i>
1868	22.8	29.0	42.6
1880	12.3	15.7	19.9
1890	5.8	8.5	14.3
1900	4.4	5.1	9.9
1910	5.1	6.6	9.6

ported by water — lake and canal — to New York City. In 1873 the railroads transported only about 30 per cent of this kind of freight, but when the all-rail rates began to decline more of this traffic was moved by the quicker route. By 1876 the railroads carried 52 per cent of all the agricultural produce and by 1900 they carried 95 per cent of all the freight that moved from west to east.

As this diversion of the traffic from water to rail routes proceeded, Boston, Philadelphia, and Baltimore began to clamor for a larger share than they had been able to obtain while the Erie Canal and the Hudson River were the chief highways of commerce. There was repeated among the rival seaboard cities the contest for the western railroad traffic which had characterized the era of canal building in the thirties. This time a solution of the problem was found in the establishment of a system of "differential" rates in 1876, which made the charges from western points to the other cities somewhat less than those to New York City, and thus placed them on an equality in bidding for the export trade.

While the competition of rival roads for freight traffic was resulting in the steady reduction of freight rates, in the passenger service competition led rather to improvements in accommodations, speed, and safety. Passenger fares were not reduced to the same extent as freight rates, since lower fares do not stimulate travel in the same degree that lower rates stimulate freight traffic. In 1871 the average fare

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per passenger mile was 2.63 cents (gold); by 1882 it was 2.43 cents, by 1900 it was 2.00 cents, and in 1910 it was 1.94 cents. Freight rates on the average were considerably lower and passenger fares somewhat higher than those in European countries.

Express and mail.—The third form of railroad service is the transmission of express and mail matter. The express business, that is, the carrying of small and valuable packages which require little room and pay heavy rates, had passed out of the hands of the railroad companies into those of express companies, organized for this purpose, as early as 1845. So profitable was the business that by 1868 there were 3000 express companies and agents in the United States. By the end of the century competition and consolidation had reduced the number to some half a dozen companies, which controlled practically the entire business. Abuses crept into the system and the express companies were accordingly brought under the control of the Interstate Commerce Commission by the Hepburn Act of 1906.

The transportation of the mails is a distinct department of railroad service, separate from those already described. As the railroad net spread over the country, the stagecoach, the pony express, and other forms of mail transportation gave way to the railroad.

Early railroad abuses.—In the process of the rapid extension of railroad facilities numerous abuses sprang up, which were probably unavoidable under the conditions which existed, but were nevertheless serious and created many new problems. In the first place, there was a too-rapid expansion and consequent over-building of railroads. The system of government land grants was in part responsible for this, since it substituted for the economic incentive of railroad earnings the artificial stimulus of a political bonus. To this must be added the speculative enthusiasm of the times and the willingness of investors to risk their capital in the undeveloped West. Railroads were therefore built in advance of paying traffic and often into unsettled regions. This over-investment of capital in fixed forms in advance of the economic need or of the possibility of earning adequate returns led to

numerous crises during this period, the panics of 1873, 1884, and 1893 being primarily ascribable to this cause.

It also led to intense and ruinous competition among the railroads to obtain the small amount of traffic that developed and to divert it from their rivals. It was easier to steal existing traffic than to create new business. Unused capacity of the over-built railroads was responsible for insufferable practices and abuses. Competition was, however, the cornerstone of the prevailing economic philosophy, and the policy of *laissez faire* was generally held, so that little was done to correct abuses by legislation or public regulation. Unfortunately, the abuses which arose under a régime of unlimited competition were not checked by a high code of business morality. It was a pioneer stage of development in which strong men, practically untrammelled by restraining legislation or public disapproval, performed extraordinary feats of railroad construction, but by methods which today would not be tolerated. Lawless manipulators obtained control of roads and, under the forms of law, gambled recklessly with corporate securities and investors' money to make fortunes for themselves. Railroads were treated as private investments to be used as those in control saw fit, transportation facilities were bartered in the market to the best bidder, or sold on secret terms to some favored shipper under conditions of gross discrimination. It was "an era of ruthlessness, of personal selfishness, of corruption, of disregard of private rights, of contempt for law and legislatures, and yet of vast and beneficial achievement."¹ Abuses inevitably developed in the construction, financing, and operation of the early roads, some of which may be described.

Some of the worst of the early frauds were practiced by means of construction companies. These companies were organized to take over the work of construction at so much a mile, and thus relieve the railroad company of the risk; they were usually paid with land and railroad securities. On the surface, such an arrangement was legitimate and useful, as it served to distribute the risks incident to a rather hazardous venture according to the principle of limited liability.

¹ B. J. Hendrick, *The Age of Big Business* (New Haven, 1919), 23.

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But in effect it opened the way to scandals of national proportions. To build the Union Pacific a construction company was formed, to which was given the French name of *Crédit Mobilier*, the stockholders of which were also leading stockholders and directors of the railroad; in their latter capacity they voted themselves in their former capacity unduly profitable contracts, thus reaping enormous profits as builders, but defrauding both the government and the innocent investors in the railroad. Bribery was used among Congressmen and in the exposure which followed in 1872 many a promising political career was brought to a sudden end.² The profits possible by such methods were well exemplified by the case of the Central Pacific, the cost of building which was estimated at \$58,000,000, but for which a construction company was paid \$120,000,000.

The disclosure of such reckless waste of funds aroused the anger of those who had contributed to the financial support of the railroads. In order to obtain transportation facilities many states, counties, and towns had made grants of land, loans of money, or subscriptions to stock; and these contributions had to be paid out of taxes. Ripley estimated that the railroads received financial aid amounting to about \$700,000,000. "Reliable evidence tends to show that the state and national governments, up to 1870, had pledged themselves one way or another for a sum equivalent to one-fifth of the cost of construction of the 47,000 miles of line then in the United States. And approximately another fifth, at the very least, must have been contributed from local and municipal sources." Individual farmers and merchants were persuaded to buy stock in a railroad in order to ensure its coming through their territory, but the profits seldom reached

² George F. Hoar's severe indictment of the period may be quoted in this connection. On May 6, 1876, he made this statement in the Senate:

"My own public life has been a very brief and unimportant one, extending little beyond the duration of a single term of senatorial office. But in that brief period I have seen five judges of a high court of the United States driven from office by threats of impeachment for corruption or maladministration . . . I have seen in the state in the Union foremost in power and wealth four judges of her courts impeached for corruption, and the political administration of her chief city become a disgrace and a by-word throughout the world . . . When the greatest railroad of the world, binding together the continent and uniting the two great seas which wash our shores, was finished, I have seen our national triumph and exaltation turned to bitterness and shame by the unanimous reports of three committees of Congress—two of the House and one here—that every step of that mighty enterprise had been taken in fraud."

the ordinary stockholder. Irregular financial methods were also exemplified by the wrecking of the Erie Railroad by Jay Gould and his associates, a particularly deplorable feature of which was the corruption of the state judiciary. In the four years 1868-1872 the capital of this road was increased from \$17,000,000 to \$78,000,000 by watering the stock. Corruption was widespread and was found not only in the "milking" of the stockholders by means of construction companies and fraudulent stock issues, but also by the granting of free passes and even bribes to persons whose favor was courted, as editors, legislators, and judges. "The system was, indeed," wrote a railroad president, "fairly honeycombed with jobbery and corruption."³

But the abuses did not stop with the construction and financing of the railroads; the evils connected with their operation were even more serious. Rates were high, though perhaps not unduly so in view of the large costs and light traffic. But the charges against the railroads most frequently reiterated concerned the practice of granting discriminating rates. High freight rates were reduced by the fierce competition, but this very competition increased the amount of discrimination, which favored certain individuals or localities at the expense of others. Of these, the least defensible were personal discriminations, which were special favors granted by a railroad to certain individuals or corporations in order to obtain their business by diverting it from rival roads. An extreme case was the granting to the Standard Oil Company by the Cincinnati and Marietta Railroad in 1885 of a rate of 10 cents per barrel on shipments between two points, while charging the independent shippers 35 cents; and the railroad moreover turned over to the Standard 25 cents of the rate collected from the independents. The Standard Oil Company and other trusts owed their successes in large measure to their ability to obtain such concessions.

Personal discriminations were granted by means of secret rates and rebates; by paying exorbitant rentals for private cars; by commissions for obtaining freight; by under-billing and under-classification; by excessive allowances for the use of terminals owned by shippers; and in other ways. Al-

³ Charles Francis Adams, Jr., *The Railroad Problem* (New York, 1878), 126.

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though these were forbidden by the Act to Regulate Commerce of 1887, the receivers of the Baltimore and Ohio Railroad testified before the Industrial Commission in 1898 that more than 50 per cent of the traffic, at least on certain lines, was still carried at discriminatory rates.

Discriminations between places, while objectionable, are not secret and are therefore less reprehensible than personal discriminations. Localities in which there was water or railroad competition were usually given lower rates than non-competitive points; indeed, the rates were sometimes raised at the latter points in order to recoup the low rates at the former. A single illustration may be given. It was testified before a Senate Committee in 1905 that the rate on cotton goods from New York City to San Francisco was \$1.00 per hundred pounds, while from New York City to Denver it was \$2.00.⁴

Hostility to railroads.—The abuses of the railroads might have been endured, but other factors were at work to arouse discontent and to direct this against the transportation agencies. It has already been pointed out that the settlement of the West was proceeding very rapidly during the sixties and was leading to a relative overproduction of grain. Owing to this fact, and also in a less degree to the contraction of the currency, prices were depressed and the agricultural surplus would frequently not bring sufficient on the market to pay the costs of transportation. The discouraged and embittered farmers, who discussed their troubles in the meetings of the Grange, organized in 1867, soon came to the conclusion that the railroads were responsible for their evil plight. The railroads, which in the sixties were "pioneers of prosperity," became in the seventies "tools of extortion in the hands of capitalists." Since some two-fifths of the total cost of construction of the railroads had been met by the grants of land, subsidies, loans of credit, etc., the farmers argued that the roads were a public trust to be used for the benefit of the shippers and not for the exploitation of the very people who helped to build them. Other groups now united with the farmers in demanding legislation to correct the worst abuses, and in the early seventies occurred the

⁴ Eliot Jones, *Principles of Railway Transportation*, N. Y., 1924, 106.

Granger movement, which was especially strong in the Middle West.

Illinois led the movement in 1870 by the enactment of legislation establishing maximum rates for passengers, forbidding extortions and discriminations in freight rates, and creating a railroad and warehouse commission with large powers. This example was followed by other states in the West and South—Iowa, Wisconsin, Minnesota, Georgia, California, and others. The so-called Granger⁵ legislation of this period was extreme and was either repealed or modified in a few years, but it was notable as the first effective demand of the shippers that the railroads be treated as public service corporations and not as mere private enterprises for the enriching of their promoters or owners. To the farmers of the West adequate transportation facilities and fair rates were an essential condition of prosperity, and these they endeavored to obtain by the means under their control.

Beginning with the seventies, two main movements in railroad transportation may be noted, one the effort of the railroads themselves to avoid the consequences of ruinous competition, and the other the effort of the government to bring the railroads under public control. Each of these may be traced in turn.

Efforts to restrain competition.—Although it was once thought that competition was the best regulator of rates, it is now generally held that competition among railroads, unless restrained in some manner, tends to become ruinous. The reason for this is the necessity of large investment in a fixed and specialized plant, so that the expenses remain practically constant and large, irrespective of the growth of traffic. After the road is built and equipped, its expenses do not grow proportionately with an increase in traffic; if an increase in business can be obtained at the same rates this will yield increasing returns in profits, for the fixed expenses remain about the same. There is thus a constant pressure to obtain new business, and where this was limited, as it was in the western states during the seventies and eighties, competition among the rival railroads became intense and forced rates down to ruinous levels.

⁵ For a description of this legislation see p. 611.

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Consolidation.—One method of escape from the evils of competition was that of combination, and this has gone on in the United States since the fifties. The first phase of this to attract public attention was the combination of end-to-end lines. As long as the traffic was local the lines remained short and disconnected ; not until after 1850 was a length of 500 miles attained by any one railroad. During the decade 1850–60 many consolidations of short links into connected roads took place, and this process continued during the next decade, notably in the case of the Pennsylvania and of the New York Central and Hudson River railroads. Under the leadership of such able railroad men as Thomas A. Scott and Cornelius Vanderbilt the connecting railroads were welded into great trunk lines. The growth of the western grain trade and of other long-distance traffic made through shipments desirable and brought about an era of consolidation.

The formation of great trunk lines, while reducing the number of competitors, increased the intensity of competition, especially for the through traffic between the central west and the Atlantic seaboard. The main lines that were bidding for western business were the New York Central, Pennsylvania, Erie, and Baltimore and Ohio, but their rivalry did not become serious until after 1859, in which year the New York Central and the Pennsylvania secured through connections to Chicago. A few years later Chicago was reached by the Erie, the Baltimore and Ohio, and the Grand Trunk (a Canadian line), and a series of ruinous rate wars was initiated by the efforts of the competing roads to divert as much of their rivals' business to themselves as possible. In 1868 the rate from New York City to Chicago was \$1.88 per hundred pounds on first-class goods and 82 cents per hundred pounds on fourth-class goods ; during the rate war of 1876 these fell to 15 and 10 cents, respectively, while passenger fares were cut to \$7.00 and cattle were carried for \$1.00 a carload.

Pooling.—Since combination among these competing trunk lines was out of the question, escape from such ruinous competition was sought by making agreements which usually took the form of pools, according to which the whole traffic

or earnings were divided among the erstwhile competitors on some pre-arranged basis. Pooling, which began in 1870, was the leading characteristic of railroad development during the decade following. The pooling agreements introduced a certain element of stability into the relations among the railroads, and by the middle of the eighties practically every large railroad was a member of one or more pooling organizations. In 1887 the Act to Regulate Commerce forbade "any contract, agreement, or combination . . . for the pooling of freights of different competing railroads." This prohibition was met by the reorganization of the various traffic associations, without the pooling clause, "for the purpose of facilitating the transaction and exchange of business with each other"; in this way they still co-operated. These traffic associations, while technically avoiding pooling, regulated rates and punished offending members. In 1897 and 1898 the Supreme Court decided in two important cases—those against the Trans-Missouri Freight Association and the Joint Traffic Association—that rate agreements violated the Sherman Anti-trust Act of 1890, which prohibited "every contract, combination in the form of a trust or otherwise, or conspiracy, in restraint of trade or commerce," and that they were therefore illegal.

Railroad combination.—As pools and rate agreements were now both forbidden, the railroads were compelled to devise a new method of regulating their relations or to return to unrestricted competition. The first and most noticeable result was the combination of hitherto independent and competing lines and the absorption of the smaller roads by the large systems. Beginning with 1898 the combination of railroads proceeded rapidly until the whole country came to be divided among less than a dozen great railroad systems. It was now possible for these groups of capitalists to prevent competition without resort to pools or traffic associations; this was by the so-called "community of interest." An investigation in 1905 disclosed the fact that a majority of the boards of directors of practically all the railroads east of the Mississippi River could be drawn from a list of thirty-nine persons. By making representatives of one group members of the boards of directors of other groups, a community of

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interest and management was established which secured the harmonious co-operation of the various lines. Usually there was a community of ownership also, the owners of one group of roads being financially interested in the other rival roads.

The next step in the combination of railroads was the attempt to bring together under one management parallel and competing systems. Thus the Northern Pacific and the Great Northern Railroads were jointly operated by the Northern Securities Company, a holding corporation; E. H. Harriman attempted to bring together under his control the Union Pacific, the Southern Pacific, and other lines; and J. P. Morgan planned a monopoly of all the New England transportation lines. This movement to closer combination met its first obstacle in adverse court decisions. In 1904 the Supreme Court in the Northern Securities case declared the combination of the two northwestern roads illegal; in 1912 it ordered the Union Pacific to dispose of its Southern Pacific stock; and in 1914 the New Haven combination was also broken up. Congress took the next step against railroad combinations by enacting legislation for the purpose of restoring competition. The Panama Canal Act of 1912 provided that after 1914 railroads should not control water transportation lines operating through the canal nor in other cases where competition might exist. And in 1914 the Clayton Anti-trust Act forbade one carrier to own stock in another when the effect would be to lessen competition between them. It was evidently the purpose of these laws to enforce competition by legislative edict.

Government regulation and control.—Under the dual government of the United States the states have the right to control intrastate commerce, that is, commerce carried on wholly within their boundaries, while the power to regulate interstate commerce, that is, commerce carried on between states, is vested in Congress. Until 1873 little use was made of this power by the state governments; the chief aim, especially of the western states, was to obtain transportation facilities, and there was no disposition to impose restrictions on new roads; competition was relied upon to protect the public from abuses. In the early seventies, however, partly as a result of low prices of their produce resulting from over-

production and currency contraction, the people of the western states demanded the regulation of railroad rates. The exercise of this regulatory power was opposed by the railroad companies, which argued that the exclusive power to regulate interstate commerce rested with Congress, and that the regulation of rates was contrary to the Fourteenth Amendment, as it deprived them of property without due process of law. The right of the people to regulate was, however, sustained by the Supreme Court in the so-called Granger cases of 1877, of which that of *Munn v. Illinois* was the leading one.

Illinois had declared grain elevators to be public warehouses and had established maximum charges for their use in 1871, and the constitutionality of this law was protested by the railroads. In his opinion upholding this law Chief Justice Waite said: "Property does become clothed with a public interest when used in a manner to make it of public consequence, and affect the community at large. When, therefore, one devotes his property to a use in which the public has an interest, he, in effect, grants to the public an interest in that use, and must submit to be controlled by the public for the common good." Shortly thereafter the power of the states to regulate even interstate commerce, in the absence of federal legislation, was explicitly maintained. "Until Congress undertakes to legislate for those who are without the state," said the Court in another case,⁶ "Wisconsin may provide for those within, even though it may indirectly affect those without."

Meanwhile, efforts were being made in Congress to obtain federal regulation. In response to agrarian demands the so-called Windom committee headed by Senator William Windom of Minnesota, chairman of the Senate committee on transportation, recommended that the federal government own and operate one or more railroad lines and also improve the waterways. No action was taken on these suggestions. In the dozen years that followed, several bills to regulate commerce and do away with some of the worst abuses of the railroads were passed by the House, but were rejected by the Senate, the citadel of high privilege. In 1885 another Sen-

⁶ *Peik v. Chicago and Northwestern Railroad.*

ate committee, headed by Shelby M. Cullom of Illinois, was appointed and made its report the following year. By this time the burden of complaint had shifted from high rates to discrimination, and the report made a strong case against existing railroad practices, to remedy which they recommended publicity of rates and the establishment of a federal commission. This report might have gone the way of earlier ones and no legislation have resulted, but just at this time (1886) the Supreme Court handed down a decision in the *Wabash* case, reversing its earlier position and holding that the states could not legislate concerning interstate commerce, control over which was vested exclusively in the federal government. Since about three-fourths of the railroad traffic in the United States in 1886 was interstate, Congress was now confronted with the necessity of passing legislation to regulate interstate commerce or of permitting most railroad traffic to be carried on without control. Because public opinion would not have supported the second alternative, Congress in 1887 passed the Act to Regulate Commerce.

The Act to Regulate Commerce.— This act provided that all charges must be reasonable and just, prohibited discrimination, prohibited a greater charge for a short haul than for a long haul, forbade pooling, required publicity of rates, and provided for a commission of five persons (since increased to eleven), to which should be entrusted the investigation of alleged violations of the act. The Interstate Commerce Commission, appointed by the President by virtue of this act, collected statistics, and sat as a tribunal to hear complaints and render decisions upon cases brought before it, but the enforcement of its decisions was obtained through the courts, to which the railroads could appeal from the commission. For a few years the commission functioned satisfactorily, but soon the opposition of the railroad officials and adverse decisions of the Supreme Court reduced it to a mere bureau of statistics.

According to the original act the findings of the commission were to be final as regards matters of fact, but in 1889 the Supreme Court held that new evidence could be introduced on appeal, and thereby by taking up cases *de novo*, greatly lessened the authority of the commission. In 1892

the Court decided⁷ that the commission could not compel witnesses to testify ; this was remedied the following year by the Compulsory Testimony Act, which provided that no person should be excused from testifying on the ground that such testimony might tend to incriminate him. In 1897 a still more serious blow was struck at the powers of the commission by a decision in the Maximum Freight Rate case that "the power to prescribe rates or fix any tariff is not among the powers granted to the commission," thus limiting it to a determination of whether or not a particular rate set by the railroad was reasonable, but denying it the right to fix a reasonable rate itself. Even in regard to the long and short haul clause the commission was shorn of its last vestige of authority by continued adverse court decisions. The original act of 1887 had prescribed that a greater charge could not be made for a shorter haul than for a longer haul under substantially similar conditions. The Supreme Court deprived this provision of all effectiveness by ruling in 1896⁸ that water competition and in 1897⁹ that all competition constituted dissimilar conditions, and that consequently larger charges for a shorter haul from or to competitive points could not be forbidden by the commission. Judicial interpretation had now left the commission with little more than the power to make reports and issue protests.

Further regulation.—The early years of the twentieth century, it will be recalled, were marked by a strong movement toward combination, both industrial and railroad. Fear began to be expressed lest railroad monopoly lead to trusts and monopoly in manufacture, and gradually Congress proceeded to build up again the shattered edifice of government regulation and control. Some of the difficulties in the federal regulation of interstate commerce were removed by the Elkins Act in 1903, which defined more clearly unfair discrimination and rebating, and expedited the trial of railroads against which charges were brought. It failed, however, to provide any machinery for compelling railroads to reduce unreasonably high rates, and applied only to personal dis-

⁷ Counselman case.

⁸ *Texas and Pacific Railway Company v. Interstate Commerce Commission.*

⁹ *Interstate Commerce Commission v. Alabama Midland Railway Company.*

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criminations. The Hepburn Act of 1906 went further than any previous legislation in enlarging the powers of the Interstate Commerce Commission, and definitely extended the principle of detailed government supervision, which had been previously exercised only in the case of the national banks, over the common carriers of the country—express, sleeping car, and pipe line companies, switching and terminal facilities—as well as over the railroads themselves. It forbade the granting of free passes, prohibited railroads from carrying their own products to market, strengthened the law against rebates, placed private car lines, etc., under the control of the commission, and provided that it should “determine and prescribe what will be the just and reasonable rate”; the final control over rates was, however, left with the courts.

In 1910 the Mann-Elkins Act carried government regulation another step forward. Express, telegraph, telephone, and cable companies were now brought under the control of the Interstate Commerce Commission. The most important change in the powers of the commission, however, was in reference to the long and short haul. The phrase which had proved such a stumbling block to the Supreme Court in 1896 and 1897, “under substantially similar circumstances and conditions,” was eliminated, and thereby larger charges for the short haul were made illegal. Another important provision of the act was that which gave to the commission power to suspend all proposed increases in rates until it could hold hearings and determine their reasonableness. Further legislation in 1913 ordered the commission to report the physical valuation of all property of common carriers as a basis for rate-making, and provided for voluntary settlement of railroad disputes. In 1916 the government passed an eight-hour law for railroad employees engaged in interstate traffic. “And thus,” wrote John Moody,¹⁰ “after fifty years of incessant struggle with the public, was the mighty railroad monster humbled. It had lost power to regulate the two items which represent the existence of a business—its income and its outgo.”

Summary.—The first problem laid upon the transporta-

¹⁰ *The Railroad Builders* (New Haven, 1920), 238.

tion system during this period was that of providing adequate facilities for carrying the rapidly increasing commerce of the country. The response was over-generous, leading to excessive building, ruinous competition, and the development of undesirable railway practices. The railroads endeavored to correct some of these evils by combination in one form or another, but while these helped the investors they did not protect the shippers. In response to their demands the government instituted a policy of regulation, but the effectiveness of this was seriously impaired by judicial interpretation, much as labor legislation had been. The Supreme Court, basing its decisions upon the Fifth and Fourteenth Amendments, became the citadel of privilege and vested interests and steadfastly resisted agrarian assaults. Provisions incorporated in the Constitution to protect personal liberty now became the bulwark of property rights.

By 1900 the country was fairly well supplied with railroad facilities. The urgent problem was now no longer how to get needed transportation, but rather the proper relations between the railroads and the shippers on the one hand, and between the railroads and the government on the other. The questions of rates and of regulation have therefore been the paramount problems before the people in recent years.

Electric railways.—The first effective competitor which the steam railroad faced on land was the interurban electric railway. This grew out of the effort to solve the problem of urban transportation. Unsightly elevated lines were built in New York City and Chicago, but they were unsuited to smaller cities. Here the horse-drawn bus or cab gave way to the horse car and this in turn to cable cars. In 1884 the first practical overhead trolley line was built in Kansas City, and thereafter the use of electricity spread steadily until it became practically the only motive power for street railways. The growth of electric railways outside cities belongs almost entirely to the period since 1895, and reached its highest development in the central states of Illinois and Ohio, and in New York, Pennsylvania, California, Michigan, and Indiana. Almost 17,000 miles of electric lines existed in 1902, which by 1917 (the year of greatest development) had grown to 44,677; of these over 18,000 were interurban.

Down to that date their chief task had been the transportation of passengers in thickly settled districts.

The electric lines possessed certain advantages over steam railroads which made them popular : owing to the fact that no locomotives were necessary, the cars could be sent off one at a time and hence frequent service was possible ; comparatively high speed, with frequent stops, was another advantage ; fares were much lower because of the greater economy of construction and operation. The convenience of the trolley greatly increased the amount of travel in the districts through which they were built, and contributed largely to the interchange of business between the cities and the small towns and farms. The interurban electric lines had a distinct socializing effect upon farm life, breaking down its isolation, introducing higher standards, and broadening the horizon of the country dwellers. They afforded a profitable outlet, by means of the express and freight trolley, for the produce of the farm, brought the superior school facilities of the town within reach of the country home, and rendered the urban markets and shops easily accessible.

The superiority of electricity to steam as a motive power for railroad transportation led also to the electrification of steam railroads. The opening years of the twentieth century saw a considerable application of electric traction to suburban service and to city terminals where frequent stops and cleanliness were important considerations ; the latter factor led to its use in long tunnels and subways, as on the roads leading into New York City. It was found especially valuable on heavy mountain grades, where steam pressure inevitably decreased but where the tractive power of an electric engine could be maintained steadily at its maximum ; in those sections where coal was scarce and hydro-electric power was available, the advantage was still greater.

Inland water transportation.—A less effective competition was offered the railroads by the rivers and canals, in spite of excellent facilities along these lines. The United States is marvelously blessed by nature with a system of long navigable rivers. The Mississippi River with its tributaries drains over 1,000,000 square miles of territory in the very heart of the most fertile region of the country, and cities

more than 1000 miles inland have direct water communication with the seaboard. Altogether it is estimated that there are 26,000 miles of navigable rivers in the United States—counting as navigable those waters whose minimum depth throughout the year is three feet—while the shore line of the Great Lakes extends for at least 1500 miles more. In spite of the provision by nature of this admirable system of internal waterways, there has been a continuous decline in their use and a steady diversion of traffic from them to the railroads. The high-water mark of steamboat traffic was reached in 1879 when the jetties at the mouth of the Mississippi were opened to commerce. In that year over 1,000,000 tons of lower Mississippi traffic were received at or shipped from St. Louis; after that date it steadily declined and in 1905 was only 141,000 tons. The receipts at New Orleans of western produce—flour, pork, and lard—were only just sufficient for domestic consumption, while no wheat at all was received. Even cotton, of which over 1,000,000 bales were received at New Orleans in 1880 and which formed the staple of the lower Mississippi traffic, fell off as the years went by. The packet business, once of great importance on the Mississippi, Ohio, Tennessee, and other rivers, declined to small proportions. By 1914 it was estimated that the rivers carried less than 4 per cent as much freight as did the railroads. Almost the only traffic remaining on the rivers was that of cheap, bulky commodities, such as coal, stone, sand, lumber, and wood, with some cotton on the lower Mississippi. Instead of the picturesque river steamer, immortalized by Mark Twain, the typical freight carrier to be met on the river was a string of coal barges towed by a powerful tug. The Mississippi River and its tributaries, however, ranked next to the Great Lakes as avenues of internal trade by water.

The decline in the utilization of the canals was even greater. Although by 1880, according to the census report of that year, almost 4500 miles of canals had been built in the United States at a cost of \$214,000,000, over 2000 miles had been abandoned and the traffic over the remainder was declining. The Erie Canal was the only artificial waterway which after the Civil War still carried any consid-

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erable amount of traffic. As late as 1868 practically all the grain arriving at New York City came by the water route, but after 1873 it began to be diverted to the railroads. In 1876, as a result of abnormally low rates, the railroads were able to get more than half the grain received at New York City. The diversion of traffic was so serious that in 1882 the canal tolls on the Erie Canal were abolished; but this was not sufficient to check the decline in canal traffic which by 1900 fell to 5 per cent of the entire freight movement across New York state. Partly responsible for this decline was the decrease in the amount of lumber and forest products, which had usually gone by the water route, but more important was the lack of improvements in equipment and facilities. The growing trade in grain and iron was diverted almost entirely to the railroads, which had meanwhile greatly improved their facilities for handling it. Beginning in 1903 the Erie Canal—rechristened the New York State Barge Canal—was widened and deepened at an expense of about \$200,000,000, in order to hold the vanishing business; but the increase in traffic did not justify the outlay. The other old canals, which had not been improved or deepened, became utterly valueless except to a few manufacturing plants which utilized the water or to occasional pleasure boats.

A few artificial ship channels, which are connecting links between important bodies of navigable water, showed, on the other hand, a notable development. Thus the St. Marys Falls Canal between Lake Superior and the lower lakes, an indispensable link in the Great Lakes system, carried a constantly growing traffic. By 1914 it had become the greatest internal waterway in the world, with five times as many ships as passed through the Suez Canal and a traffic tonnage equal to nearly 40 per cent of that of the entire railroad system of the United States. The Panama Canal, connecting the Atlantic and Pacific oceans, was completed in 1914 at a total cost of \$365,000,000, and promised to cause a shifting of trade routes.

The reasons for the lessened utilization of the rivers and canals may be briefly stated. The tidal rivers on the Atlantic coast and the Columbia River on the Pacific afford wide and deep channels and are used in connection with the coastwise

traffic. But the rivers in the interior of the country are for the most part fluctuating in depth and frequently without sufficient water in summer for efficient navigation. Even the larger streams, like the Mississippi and the Ohio, present difficulties from low water, shifting sand bars, swift currents, floods, ice on the upper reaches in winter, and other navigation obstacles. Equally responsible for the loss of traffic was the backwardness of equipment, whether of landing stages and loading appliances or of boats, and poor business methods. The canals, which were of inestimable service before the days of the railroads, were not improved, with the exception of the New York State Barge Canal, to meet the demands of commerce, and sank into almost complete disuse. As the railroads developed they bought up such competing canals as they could and then cut their banks or otherwise discontinued their service;¹¹ they maintained an attitude of active hostility to the river trade, refusing to provide for convenient terminal or transshipment facilities or to quote through rates. On the other hand, the railroads provided increasingly better service and at steadily lower rates. The movement of internal commerce became increasingly east and west, whereas the rivers flowed in a southerly direction; and the trunk and transcontinental roads were therefore not only better laid out for this traffic but ran through great areas inaccessible to rivers or canals. The shifts in the location of the producing areas of raw materials and of manufactured articles altered the direction of traffic. The greater speed of the railroads also commended them to shippers in an age when delay meant inconvenience or loss.

In contrast with the river and canal traffic, that on the Great Lakes showed a great increase. Statistics covering the movement of freight upon the whole Lake system were not collected until 1889, when it amounted to 25,267,000 tons; by 1910 it was 85,000,000 tons. These "unsalted seas" afford a deep and practically unbroken channel of trade for 1000 miles, providing cheap transportation like that of ocean carriers for the heavy and bulky commodities produced in the areas which they serve. This branch of inland

¹¹ See E. L. Bogart, *Internal Improvements and State Debt in Ohio* (New York, 1924).

water transportation alone maintained itself against railroad competition, though the traffic was confined chiefly to coal, iron ore, lumber, and grain. Several causes contributed to the increase in the shipping of the Great Lakes. The proximity of the Lake ports to important areas of production, as grain, iron, copper, lumber, coal, and similar products, made them the natural highway of commerce for the Northwest. Iron ore moving east and coal moving west constituted about four-fifths of the traffic, most of which was through traffic. The equipment was steadily improved, the size of vessels being increased and steam substituted for sails as a motive power ; harbors were deepened and provided with adequate terminal facilities, equipped with up-to-date loading and unloading devices.

One other branch of the domestic water transportation of the United States may be mentioned—the coastwise trade. This had been restricted since 1817 to vessels flying the American flag, and was therefore not exposed to the competition of foreign-owned vessels, though the railroad proved itself a serious competitor between many points. Between 1860 and 1880 the number of vessels engaged in the coastwise trade remained almost stationary, but by 1900 it had practically doubled ; and in the next decade showed an even greater rate of increase. Coal, lumber, cotton, and similar bulky commodities constituted the chief items of coastwise commerce. The opening of the Panama Canal in 1914 greatly stimulated its development by shortening the distance between Atlantic and Pacific ports. The tonnage engaged in the coastwise trade was larger than that engaged in foreign trade, and was second only to the total tonnage of Great Britain.

Means of communication.—New and rapid means of communication are vital factors in our modern industrial society, and their development during this period kept pace with the industrial and commercial growth in other directions. Almost as necessary as an adequate system of transportation for carrying on domestic and foreign trade are means of communication by which business men can inform themselves of industrial conditions and direct distant enterprises. Large enterprises can be managed from a central

office which can keep in touch with every subordinate part. Indeed, without the telegraph and telephone the great manufacturing enterprises and railroads could not have been brought together in unified concerns. Improved means of transportation, communication, and credit have combined to make possible the development of modern industry. By their aid producers, manufacturers, and merchants may be constantly informed as to trade conditions, price changes, and other factors which might affect their actions. Thus a drought in India, too heavy rains in Argentina, a bumper crop in Canada, would all be telegraphed at once to Chicago or Liverpool and be reflected in the price of wheat on those markets. Competition is made world-wide and local price differences tend to be eliminated. The weather bureau has rendered signal service to farmers and shipping interests by notifying them of anticipated changes in the weather. The modern newspaper, with its daily grist of news from all over the world, owes its growth to rapid means of communication.

The postal service of the country expanded during this period even more rapidly than population or industry. It is difficult to find an accurate measure of the growth of the post office, but the sale of postage stamps is as significant as any other: the number issued increased from 216 million in 1860 to 9000 million in 1910. Various improvements in the mail service increased its efficiency; such as free city delivery (1863), postal money orders (1864), the sorting of mail on mail cars *en route* (1864); postal cards were first issued in 1873, special delivery letters were authorized in 1885, free rural delivery in 1896, motor vehicle service in the larger cities in 1914, and air mail in 1918. At the same time postage rates on first-class mail were reduced from 3 cents per half-ounce, as established in 1850, to 2 cents an ounce by federal act in 1883. The facilities of the post office were greatly extended by its entrance into the fields of banking and express service, though both were bitterly fought by the interests affected. A postal savings system was introduced in 1910 to provide small savers, and especially immigrants, a place for the deposit of their savings without risk of loss; the rate of interest on deposits was purposely fixed

at the low rate of 2 per cent per annum so as not to compete with savings banks. In 1912 the parcel post system was added.

The pony express was a unique experiment in overcoming the vast distances which separated California from the Mississippi Valley, but it had only a brief life (April 3, 1860 to October 24, 1861) before the electric telegraph destroyed its practical usefulness. The telegraph, like the railroad, was stimulated by the Civil War, and by 1862 a telegraph line had been stretched across the continent. The expansion of this service was greatly aided by numerous inventions; a tremendous impetus was given by the invention in 1872 of duplex telegraphy. Soon two messages were being sent each way simultaneously, and finally came multiplex telegraphy, all of which greatly increased the capacity of the physical plant and decreased the cost of sending messages. The importance of the telegraph is only partially indicated by the number of messages sent, which increased from 8,000,000 in 1869 to about 100,000,000 in 1910. American ingenuity also applied telegraphy to various other uses, such as fire alarm boxes, stock tickers, district messenger service, etc. The expansion of telegraph lines tended to be less rapid, owing to the competition of the long-distance telephone and to the introduction of radio-telegraphy about 1900. The first commercially successful Atlantic cable was laid in 1866 by Cyrus W. Field, although an earlier one had been in operation a few months in 1858. At the end of the century cables crossed both the Atlantic and the Pacific oceans and afforded quick communication with every part of the globe. By 1914, however, the development of radio-telegraphy and of radiotelephony was already threatening their importance.

Of more general use for short distances was the telephone, which was invented in 1876 almost simultaneously by Alexander Graham Bell and Asa Gray. Its use spread rapidly and by 1880 there were 54,000 receiving telephones in operation; by 1900 the number had risen to 1,700,000, and by 1912 to 8,730,000. In course of time the service was extended over longer distances; in 1892 a line was opened between New York and Chicago, and in 1915 between New York and San Francisco.

All these improvements in the means of transportation and communication facilitated the gathering of news and the distribution of newspapers and magazines. The newspapers in the United States increased from about 400 in 1860 to 23,000 in 1911, but the subscription lists grew much faster. The wide distribution and low price—thanks to the advertising—of reading material in this country had a marked effect on our social and political development as well as on our economic progress.

Conclusion.—The effects of improved transportation on modern industrial society stand out more clearly if we contrast our present railroad age with the pre-railroad period. Improved agencies made transportation more regular and certain, cheaper, safer, and quicker. The greater cheapness and speed enlarged the areas of production and distribution, and made possible the grouping and feeding of large numbers of people in cities, the assembling of materials there for large scale manufacturing establishments, and the distribution of their products over world-wide markets. The costs of food and manufactured articles were greatly reduced to consumers, both by direct savings in transportation and indirectly through the economies resulting from regional specialization and division of labor. With the enlargement of areas of production and distribution, moreover, supplies became more regular, shortages tended to disappear, and business became stabilized. All these results followed the improvement in methods of transportation in the United States.

Although most of this chapter has been devoted to the subject of railroads, it is evident that all the various agencies described had their parts to play in moving the immense traffic of the United States. In the movement of freight the railroad cut deeply into the services of rivers and canals, and less so into that of the Great Lakes. In the carriage of passengers, however, the railroad was already yielding primacy to the automobile, and still other changes seemed to be imminent. The same change and adaptation was taking place in means of communication. A study of the past may well make us open-minded as to the future.

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On the subject of water transportation, a comprehensive survey was made in the *Tenth Census* (Washington, 1880), Vol. VIII. A later study is the *Final Report of the National Waterways Commission*, 62nd Cong., 2nd Sess., Sen. Doc. No. 469 (Washington, 1912). The relations of waterways to railroad competition are discussed in *Transportation by Water in the United States* (3 parts, Bureau of Corporations, Washington, 1909-10). More specialized studies are E. L. Bogart, *Internal Improvements and State Debt in Ohio* (New York, 1924), and C. L. Jones,

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Economic History of the Anthracite-Tidewater Canals (University of Pennsylvania, Philadelphia, 1908). H. G. Moulton, *Waterways vs. Railways* (Chicago, 1912), is antagonistic to water transportation. Water transportation on the Great Lakes is described by Norman Beasley, *Freighters of Fortune* (New York, 1930); J. C. Mills, *Our Inland Seas* (New York, 1910); R. G. Plumb, *History of the Navigation of the Great Lakes* (Washington, 1911); and W. Havighurst, *The Long Ships Passing* (New York, 1942). C. H. Ambler, *History of Transportation in the Ohio Valley* (Glendale, Calif., 1932) deals with the Ohio River.

The history of the various other agencies of communication and transportation is contained in special treatises, of which a few only can be named: D. C. Roper, *The United States Post Office* (New York, 1917); W. K. Towers, *From Beacon Fire to Radio* (New York, 1924); H. N. Casson, *History of the Telephone* (New York, 1910); and M. Keir, *The March of Commerce* (New Haven, Pageant of America Series, 1927), with many good illustrations.

CHAPTER XXIV

✓ DOMESTIC AND FOREIGN COMMERCE

Domestic commerce.—It is evident, from the great growth of the means of transportation, that a vast internal commerce was developing in the United States during this period. Although the volume of this traffic has never been accurately measured, as is done in the case of the imports of foreign goods which enter our harbors, a rough estimate would place the total movement of freight in 1860 at about 50 million tons, and in 1914 at about 2000 million. In the first part of this period the railroads and the inland waterways divided the traffic fairly equally, though there was a large but unknown movement by wagon. By 1900 the pipe lines had been built and were carrying large quantities of petroleum, and by 1914 motor-driven trucks were beginning to bid for the traffic. The value of this trade may be estimated at \$3500 million in 1860 and \$30,000 million in 1914.

This increase in the internal trade of the country was occasioned by the growing localization of sources of supply and of specialization in manufacturing which was taking place in the nation's industries, and was facilitated by improvements in methods of transportation and in the mechanism of exchange. In a community where each family produced its own food and other necessities, few exchanges were made, but as each individual and locality came to specialize in a single line of production, the business of effecting exchanges of these specialized products became increasingly important. In 1860, as has already been pointed out,¹ there was a vigorous trade between the West and the South and a rapidly growing exchange of goods between the East and the West. The Civil War interrupted the first of these and stimulated the

¹ See chap. xiv, p. 341.

second, and after that struggle the poverty of the South reduced the relative volume of trade with that section. The building of the trunk lines of railroad from the Atlantic seaboard to Chicago and St. Louis, and later the completion of the transcontinental lines to the Pacific, opened up new areas of agricultural production, of mining, and of lumbering, and gave to eastern manufacturers raw materials and markets for their finished products.

This territorial specialization was greatly facilitated by the extension of transportation facilities and the steady reduction in costs, which widened the areas of production and the markets. There was a tendency for markets to become national in scope, even the frontier agricultural communities being drawn into the net by improvements in transportation. In 1860 even a commodity like wheat could not stand the expense of transportation by rail for more than a few hundred miles, and long distance freight traffic was largely confined to finished goods and the more valuable raw products such as cotton. As charges were reduced, however, it became profitable to ship all kinds of grain and livestock, heavy minerals, lumber, and similar cheap and bulky articles, which now became accessible to distant consumers. This growing tendency to move less valuable kinds of products is well illustrated by a comparison of the amounts and values at different dates, given in the first paragraph of this chapter.

✓ **Routes of trade.**—Shifts in the routes of trade occurred in conformity with the changing sources of supply and with the growth of new centers of manufacturing and distribution. The commerce down the Mississippi increased to 1880 and then declined, partly owing to the diversion of traffic from the slower water route to the railroad, but primarily because of the movement of grain producing areas into the West and Northwest and of cotton growing into Texas, which could not be reached by the river route. The grain began to move in large volume by the Great Lakes route, especially after the settlement of the spring wheat section in the Northwest in the early seventies and still later after the development of Canadian wheat farms just across the border. More important was the movement of coal to the upper Lake region and of iron ore in the opposite direction. For the movement of

these heavy commodities in bulk this long uninterrupted water route was unrivaled, and this commerce showed steady development. The major railroad routes in the United States also connected areas of dissimilar economic interest and thus facilitated exchange of different commodities. The manufacturing states of the Northeast were joined with the cotton, tobacco, and lumber districts of the South and with the grain regions of the Middle West, which in turn were in touch with the petroleum and livestock districts of the Southwest and the mineral, lumber, and fruit regions of the Far West.

Each of these great specialized areas originated large amounts of traffic and received other distant commodities in exchange. These producing areas are shown on the map on page 511. The movement of trade no longer took place, as it had done in colonial days and again in the 1830's, along the lines of a triangle and in one direction on each line; instead the country was now crisscrossed by hundreds of lines of traffic which flowed in every direction.

✓ **Organization of wholesale marketing.**—In order to care for this expanding commerce specialized middlemen became increasingly important and the marketing function was more sharply differentiated from production. Already at the time of the Civil War trade organization was fairly complex and goods passed through many hands in their transfer from producer to consumer. Wholesale houses, jobbers, and commission men assisted in moving goods from areas of production to those of consumption and in distributing them to the markets. The organization differed according to the kind of commodity. Agricultural raw materials were raised on many widely scattered farms and these had to be assembled in larger lots. Consequently, these passed through many hands. Foodstuffs usually followed a more direct route from producer to wholesaler. Minerals, like coal and iron, whose production was concentrated, were frequently sold by the mine-owner direct to the manufacturer, without the help of middlemen. As time went on, great centers of trade grew up in the large commercial cities, which gathered the surplus products of the neighboring areas and distributed them to manufacturers and consumers. Wholesale trade tended to

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concentrate in these primary markets and to reach out in both directions. Commercial practices differed for almost every line of industry, but, for purposes of illustration, the trade in manufactured goods may be accepted as fairly typical.

Most classes of manufactured goods were sold by the producers to brokers, jobbers, or commission men and were distributed by them to wholesalers ; or in some lines the manufacturer dealt directly with the wholesaler. The latter maintained continuous stocks of particular lines of merchandise sold directly to the retailer, who in turn sold to the consumer. The jobber bought odd lots of merchandise known as "jobs" from the manufacturer. Both these groups assumed the risks of sale and of market fluctuations, but received any speculative profits from price changes. The broker was usually found in an industry like the canned and preserved food trade of today, where the manufacture was highly specialized and often protected by brands ; he assembled different lines and placed these at the disposal of the wholesaler. The commission merchant was simply the agent of the manufacturer and was paid a percentage of the sales effected by him.

In a period when manufacturing establishments were small and widely scattered, it was difficult for the manufacturers to deal directly with the wholesaler and still more so to establish direct connections with the retailer ; in these circumstances middlemen performed a useful and necessary function. As the business units grew larger, however, and improvements were made both in transportation facilities and in means of communication, changes in trade organization were introduced looking to the elimination of the middleman. The chief factors making for a simplification of the process of distribution were the development of mass production, the standardization of goods, the growth of national advertising, and the efforts of manufacturers and dealers to gain immediate access to the consumer.

Four types of organization may be distinguished : (1) the manufacturer sold direct or by agent to a jobber, or broker who sold to a wholesaler, by whom the goods were sold to the retailer and by him to the consumer. As marketing methods improved there was a tendency to dispense with

the middleman who stood between the manufacturers and the wholesaler. In some lines he was largely eliminated.

(2) The manufacturer sold to the wholesaler, the wholesaler to the retailer, and the retailer to the consumer. In this case the wholesaler occupied a strategic position and the question was not infrequently raised as to the value of his services. A spirited defence is furnished by Killough:²

"The wholesaler performed indispensable services for the dealer; he was equally important to the existence of many struggling manufacturers. The wholesaler had a definite clientele of more or less permanent customers with whom trade connections were maintained. He provided the manufacturer with a force of trained salesmen who handled so many lines that they could afford to call regularly upon the smallest dealer in the smallest towns. The wholesaler assumed the risk of credit extensions to dealers, stored the merchandise as fast as it came from the factory and, as already stated, granted, on occasions, financial assistance to the manufacturer whose limited funds were tied up in machinery and tools, raw materials and semi-finished goods. The wholesaler also provided the manufacturer with market information to be used as a guide in production. In fact, the orders advanced by wholesalers often served as requisitions for manufacturing. Thus the wholesaler originally assumed much of the price risk and furnished much of the foresight that more recently has been shifted in large measure to manufacturers."

Another feature of this type of market organizations was the appearance of the traveling salesman. Before the Civil War retailers went to one of the larger wholesaling centers—Boston, New York City, Philadelphia, Baltimore, Cincinnati, Chicago, St. Louis or New Orleans—twice a year to lay in a stock of merchandise. With the growth of manufacturing and of improved transportation, competition became keener and the wholesalers employed men to drum up trade by inducing retailers to buy of their employers. These "drummers" at first met the retailers on their semi-annual visits to town and sought to gain their trade by entertainment and drummers' yarns. Later they became responsible

² Hugh Killough, *The Economics of Marketing* (New York, 1933), 166.

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traveling salesmen and, armed with samples and price lists, solicited business by calling on the retailers at their stores.

(3) The manufacturer sold direct to the retailer. Some large companies, like the Standard Oil and the Pittsburgh Glass, adopted this method of direct sales, but on the whole this method was more characteristic of the next period.

(4) The manufacturer might sell direct to the consumer ; this was sometimes done by mail, as in the case of clothing, or by canvassers, as in the case of aluminum kitchen utensils or books.

Produce exchange.—The most highly organized and sensitive market was the produce exchange. As a place where commodities could be bought and sold in large quantities, the produce exchange developed about the middle of the nineteenth century. The leading ones were the Chicago Board of Trade (1848), New York Produce Exchange (1850), Merchants' Exchange of St. Louis (1854), New York Cotton Exchange (1878), New Orleans Cotton Exchange (1872), Minneapolis Chamber of Commerce (1881), and New York Coffee Exchange (1882). Although dealing in different commodities, the various exchanges had the common purpose of providing auction markets for their members, who established the prices and volume of trade of these products by bidding. The choice of commodities and the successful operation of these exchanges was determined by the progress in developing grades and standards, so that various lots could be sold by name with an assurance that they were equivalent. Most of the smaller exchanges were "spot" or "cash" markets, but the larger ones dealt also in "futures." The purchase or sale of a commodity for delivery at a future date, when properly conducted, has a stabilizing effect on prices, and offers a form of insurance against losses from price fluctuations. Unfortunately, it also opened the way to speculative manipulation and unfair practices which brought the whole system of dealing in futures under suspicion.

Organization of retail distribution.—At the beginning of this period the retailer was wholly dependent upon the wholesaler for his supplies of merchandise, for he could not possibly have assembled his varied stock directly or have obtained credit from scattered manufacturers with whom he

lacked contact. Retail trade responded to changes in population shifts and improvements in transportation in much the same way as did wholesale trade. The growing specialization of areas of production and of individuals within each area, and the growth of cities, tended to lessen the importance of the old general store, though this did not disappear. The country peddler, who had contributed so usefully to the distribution of goods during the earlier period, retired to remote districts. The marketing organization of the rural sections was linked up more closely with the larger trading centers, and in these there was growing specialization. The retail trade of the cities was also profoundly affected by the economic movements that were taking place and altered its character and distributive agencies. These changes were quite as important and as significant as those which were occurring in the wholesale field.

The period after the Civil War, from about 1865 to 1896, was one of falling prices. If a retailer kept his goods on his shelves for any length of time he might have to sell them for less than the cost price. He was therefore under pressure to sell his merchandise as rapidly as possible. He sought to carry a smaller and better assorted stock and to turn this over more frequently. In this he was aided by the traveling salesman. Styles began to change more rapidly, especially of clothing, and new inventions placed entirely novel articles on the market. Many things formerly made in the home were taken over by the factories and appeared for sale in retail stores. Such were ready-made clothing, factory shoes, baker's bread, creamery butter, and canned goods.

Under the pressure of these forces the old general store gave way to more economical and efficient methods of retailing. Four types developed: (1) the specialty store, (2) the department store, (3) the mail-order store, and (4) the chain store.

(1) The specialty store resulted from a splitting off of one line from the conglomeration of the general store and concentration on this. It was a species of specialization by which better goods and a wider choice could be offered the buying public by a merchant who understood this particular business better than the proprietor of a general store could.

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(2) The department store seems to have been originated in 1861 by A. T. Stewart in New York City, though the Jordan Marsh Company in Boston is credited by some with the honor of priority. These were soon followed by Gimbel Brothers in Milwaukee, R. H. Macy in New York, and Marshall Field in Chicago, but the greatest pioneer was John Wanamaker in Philadelphia, who in 1876 introduced the one-price system, marked the prices of his goods in plain figures, gave a money-back guarantee, and installed conveniences for shoppers. Other stores followed this example and the department store became a typical American institution. The idea underlying the department store was the bringing together under one roof of the usual "shopping lines"—dry goods, ready-made clothing, furniture, jewelry, etc.—so that the shopper, usually a woman, might satisfy all her wants without leaving the building. The advantages of such a store were economies in buying—as it could frequently purchase direct from the producer—in operation, and in financing; but it lacked the personal relationship of the small retail store.

(3) The mail-order house dates from the establishment of Montgomery Ward and Company of Chicago in 1872. The principle upon which it was based was to buy direct from the manufacturer and sell direct to the consumer; it thus combined the functions of the wholesaler with those of the retailer. It substituted a catalog for salesmen and made a direct appeal to the consumer on the basis of low prices. A great impetus was given to this type of store by the establishment of the parcel post in 1912.

(4) The chain store represented another effort to simplify the distributive organization and to reduce costs; it aimed to obtain the buying advantages of the department store or the mail-order house and the selling advantages of the small retail store, and relied mostly upon convenience and emergency goods. Chain stores were established as early as 1859 by the Great Atlantic and Pacific Tea Company, which sold groceries. After that other chain systems were organized to sell groceries, tobacco, drugs, candy, hardware, dry goods, clothing, hats, shoes, and other lines. The chain store was made most familiar to the public in the form of five-and-

ten-cent stores, the first of which was started by F. W. Woolworth in 1879.

Growth of foreign trade.—The development and transformation of the domestic commerce of the United States could not take place without corresponding changes in our commerce with the rest of the world. The advance of this country from fourth place among the commercial nations of the world in 1860 to second rank in 1900 and to first place today is simply another evidence of the industrial expansion which was taking place in the United States. The following table shows briefly the growth of the foreign trade.

FOREIGN TRADE OF THE UNITED STATES, 1860-1914 (In millions of dollars)					
<i>Year ending June 30</i>	<i>Exports of merchandise</i>	<i>Imports of merchandise</i>	<i>Excess of exports over imports</i>	<i>Percentages which agricultural products formed of total exports</i>	<i>Percentages which finished manufactures formed of total exports</i>
1860	333.5	353.6	20.1*	81	11
1870	392.7	435.9	43.2*	79	15
1880	835.6	667.9	177.7	83	11
1890	857.8	789.3	68.5	75	16
1900	1,394.5	849.9	544.6	62	24
1910	1,744.9	1,556.9	188.0	52	29
1914	2,364.5	1,893.9	470.6	40	31

* Excess of imports over exports. *Statistical Abstract of the United States*, 1941, p. 526.

The Civil War interrupted the steady growth of our foreign trade, for although exports from northern fields and factories increased they were not enough to offset the blockade of cotton. After the war there was a conscious policy of developing the internal resources of the country by the Homestead Act, the construction of the transcontinental railroads, and the building up of domestic industries by a high protective tariff, as a result of which interest was diverted from foreign trade. A certain expansion was inevitable as the result of our industrial development, but on the whole the table given above shows only a slow growth until the end of the nineteenth century.

With the opening of the twentieth century the foreign trade of the United States experienced a great expansion. The causes of this were varied. The Spanish-American War in 1898 stirred the pride and imagination of the American people and broke down provincial barriers. The great development of our internal resources and of our manufacturing industries was furnishing a surplus of products above what the domestic market would absorb at prevailing prices; and the great combinations of capital were seeking an outlet for this surplus in foreign markets. In 1900 and 1901 a veritable panic was occasioned among European manufacturers by the so-called "American invasion" of those years. The foreign trade of the United States expanded rapidly, but steadily, during the period from 1900 to 1914, both exports and imports increasing about \$1000 million, with the relations between the two sides of the international balance sheet remaining about the same. The increase was due in part to a rise in the general price level.

Exports.—The United States in 1860 was still thinly settled, and one-half the population was engaged in agriculture, cattle-raising, lumbering, mining, and other extractive industries. Compared with the industrial states of Europe, which together were nearly equal in area to the United States, this country was only in the extractive stage of industry. This is clearly indicated by the nature of the leading exports in 1860. Cotton made up nearly two-thirds of the total, but tobacco and naval stores also contributed to the southern exports; from the North, wheat, flour, and provisions were important. During the latter half of the nineteenth century the chief exports continued to be mainly agricultural products, to which mineral products were added in the last two decades. The changes going on in industry during this period, the opening up of new areas of grain production and of cattle-raising, the location and exploitation of iron and copper mines and of petroleum deposits, and the cutting of the southern pine forests, all laid the basis for a growing export trade. By 1914 the six leading exports in the order of their importance were raw cotton, machinery, petroleum and its products, copper and its manufactures, wheat and flour, iron and steel mill products. It will be seen

that most of these were derived from the fields, forests, and mines rather than from the factories. Down to about 1900, then, the growth of foreign trade reflected primarily the expansion of agriculture and the extractive industries. But the export of these commodities would not have been possible had there not been waiting markets in the industrialized states of Europe, eager to avail themselves of our food and raw materials. Comparative costs of production determined the particular items that entered our export trade and the markets in which they were sold. Foreign tariffs held off some of them, but the cheapening of transportation and of handling and improvements in marketing organization tended to widen the markets for our goods.

The characteristic feature of our export trade during the early part of the twentieth century was the growing volume of exports of manufactures. In 1860 this group, including only manufactures ready for consumption, was less than 11 per cent; by 1914 it was 31 per cent. It seemed clear that the country had at last reached a stage in its economic development where it could compete on equal terms with the industrially older nations of Europe. Of the six raw materials which constitute the chief requisites for manufacturing—coal, iron, copper, wood, cotton, and wool—the United States was the largest producer of all but the last and was therefore admirably equipped for manufacturing a great variety of commodities.

At the beginning of the twentieth century some of the important manufactures exported were iron and steel products such as tools, sewing machines, locomotives, and typewriters, manufactures of copper such as electrical apparatus, petroleum, the products of wood, the coarse cotton textiles, agricultural implements, crude chemicals, leather goods, paraffin, and paper. Most of these were based upon a plentiful supply of raw materials and on mass production in large quantities, in which the United States excelled, especially in the iron and steel industry. But early in the twentieth century we won recognition as machine builders and as manufacturers of many practical appliances in the factory, the office, and the home. Our growing pre-eminence in this field was due to a variety of causes, among which may be

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mentioned the cheapness of raw materials, a liberal patent law, the genius of men like Westinghouse and Edison, and a general skill in the use of machinery. American industry produced certain manufactured articles which were peculiar to the United States and which had to be bought here by foreign nations if they were to be had at all. Among these may be listed sewing machines, typewriters, cash registers, adding machines, office fixtures, fountain pens, alarm clocks, elevators, agricultural machinery, and many other articles.

Imports.—Before the Civil War the principal group of imports had always been manufactured goods, which in 1850 constituted over 70 per cent of the value of all imports and in 1860 over 63 per cent. These were followed by tropical products. This is clearly shown in the following list of the leading imports into the United States in 1860: wool manufactures, cotton manufactures, sugar, coffee, hides and skins, and wool. During the next seventy-five years the importance of the group of foreign manufactures steadily declined, as American industries grew and high protective tariffs closed the door to European wares. The need of raw and semi-raw materials for use in American factories and mills caused an increase in the imports of crude materials, such as rubber, hides and skins, raw silk, wool, vegetable fibers (flax, hemp, jute, sisal, etc.), and long-staple cotton. By 1914 this group had taken the leading place among the imports, constituting 34 per cent of all. The twentieth century saw a great increase of wealth in the United States and caused a growth in the demand for luxuries and tropical foodstuffs. The people of this country were the greatest sugar eaters and coffee drinkers in the world, and consumed enormous quantities of other exotic products. The greatest expansion, however, continued in the group of manufacturers' materials, especially in imports of hides and skins for the expanding boot and shoe industry and of raw silk to meet the apparently insatiable demand for silk dresses, underwear, stockings, etc. In 1914 the leading imports in order of their values were hides and skins, coffee, sugar, raw silk, crude rubber, and cotton manufactures.

Balance of trade.—It is not enough to state the exports and imports; to obtain a true picture the relation between

them, the balance of trade, must be given. Down to 1874 the balance was usually "unfavorable"; that is, merchandise imports were greater than merchandise exports. Like most new countries, the people of the United States were purchasing more than they sold, running heavily into debt for supplies of capital and manufactured goods. Much of the capital needed to build the transcontinental railroads and develop western lands came from England and other European countries during this period. Between 1874 and 1914 the balance was "favorable" in all years but three; that is, the exports exceeded the imports. But the excess was small, averaging \$400,000,000 or \$500,000,000 a year, and was just about enough to pay the "invisible" items on the international balance sheet, which were running against us. These included such costs as interest on foreign capital invested in this country, expenditures of American travelers abroad, immigrants' remittances, payments to foreign shipowners for carrying our freights, insurance, and similar expenses. These did not appear among the merchandise imports, but they had to be paid for nevertheless, and in our case were met by exports of merchandise in excess of those required to offset the merchandise imported. It must be emphasized that exports do not represent surplus goods; they are means of payment for imports and also for services rendered us by other nations. If the two sides of the international accounts do not balance the difference is settled by shipping gold.

Nations with which we trade.—Two outstanding facts should be noted with respect to our foreign markets—first, the continuing importance of Europe during the latter half of the nineteenth century both as customer for our exports and source of supply of our imports; and second, the development of new markets after 1898. In 1860 Europe received 77 per cent of our export trade and in 1914 still took 63 per cent, although there were slight fluctuations in the intervening years. The importance of the European market was greatest in the eighties when our exports of grain were at their peak and we found there an outlet for our surplus breadstuffs, cotton, meat products, beef cattle, leaf tobacco, lumber, petroleum, and copper. Great Britain was our best customer. Trade with our neighbors in North

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America accounted for about half the balance, while the other half was scattered throughout the rest of the world. The sources of our imports were not quite so concentrated as were the markets for our exports, though Europe provided us with 60 per cent in 1860 and 47 in 1914. As the proportion received from Europe fell off, the loss was made up by a relative as well as an absolute increase from South America and Asia, whose products—raw materials and tropical or sub-tropical foodstuffs—were not so generally held off by competing American industries and prohibitive tariffs. The development of a higher standard of living among our own people, moreover, increased the demand for such semi-luxuries as coffee, sugar, and similar items.

The merchant marine.—To carry on this growing commerce it was necessary to develop a complex mechanism of foreign trade, and step by step this was produced in order to meet the changing needs. We have already seen the response within the country, in the building of railroads, the improvement of inland waterways, the construction of harbors, lighthouses, docks, loading and unloading facilities, to care for our internal commerce. But upon the ocean also bigger and swifter steamships were needed, which could carry greater cargoes at cheaper rates. Gradually, too, ocean cables, radiotelegraphy, international banking and credit facilities, and all the intricate mechanism of modern international trade were created in response to economic demand. Not all of these could be provided simultaneously by American capital, and in the case of ocean shipping we came to depend more and more upon foreign ships.

The era of the clipper ship had brought the tonnage of our merchant ships engaged in the foreign trade up to 2,496,894 in 1861, the highest point ever reached up to that time. During the Civil War almost a third of our vessels were sold to foreigners, others were destroyed by Confederate cruisers or were sold to the government for conversion into transports and cruisers. Congress refused to readmit to American registry vessels sold abroad, and our shipbuilders were unable to make up the loss. The heavy war taxes which had been imposed upon hulls of vessels and marine engines were repealed in 1868, but the duties

on cordage, copper, and iron still remained. These disadvantages made it impossible to compete with British and foreign shipbuilders in the construction of iron steamships, and with the decline of the wooden sailing vessel the ocean carrying-trade passed almost entirely into foreign hands. Between 1865 and 1870 we had made a slight gain, even with our wooden sailing vessels, which did not have to give up valuable cargo space to coal, as did steamers on long voyages; but in the latter year the opening of the Suez Canal gave the advantage to steamers in the trade with the Orient by permitting them to recoal *en route*, and inflicted the last blow on our struggling merchant marine. In spite of the great expansion of our foreign trade the number of American vessels engaged in this service steadily declined until in 1898 the tonnage reached 726,213, the lowest figure since 1839. At the same time the proportion of our foreign trade carried in American vessels fell from 66.5 per cent in 1860 to 8.2 per cent in 1901, which was the lowest point reached.

The explanation of this steady decline in the American merchant marine is to be found not in a lack of patriotism on the part of American shipbuilders or shippers, but in the larger profits to be obtained from other branches of industry. This was a period of rapid railroad building, of the exploitation of our mineral and forest resources, and of the development of large scale manufactures. The greatest returns were to be had by the investment of American capital in these lines, and the ocean carrying-trade was consequently handed over to other nations which lacked similar opportunities for internal development. This situation had not been felt as a serious handicap so long as our energies and capital were devoted to the internal development of the country, but when after 1900 our export trade began to take on larger dimensions certain disadvantages showed themselves. In many cases direct service between American ports and foreign markets, especially in South America and the Far East, did not exist, and it was necessary to ship goods via German or British ports. American exporters were thus placed at a disadvantage in their competition with exporters of those nations upon whose ships we depended.

In the period between 1900 and 1914 a slight gain was made, and in the latter year the tonnage of ships under American registry engaged in foreign trade was 1,076,152. Some efforts had been made in Congress to encourage shipping, such as the proposals to pass subsidy laws and the granting in the 1913 tariff law a 5 per cent discount of duties on goods imported in American vessels. The subsidy bills were not passed, however, and the 5 per cent discrimination was disallowed by the Supreme Court. In 1912 foreign-built vessels under five years of age, owned by citizens of the United States, were admitted to American registry and permitted to sail under the American flag; at the same time materials used in the construction and equipment of ships were admitted free of duty. In spite of this permission few foreign-built ships were brought under American registry during the next two years.

During this period great improvements were made in ship design and construction and also in motive power and new types of engines. The building of iron vessels using steam as a motive power instead of the old wooden sailing vessels has already been mentioned, but about 1880 steel was substituted for iron, thus permitting the construction of lighter, stronger, and larger vessels. The steam engines used in these steamers were the so-called "reciprocating" type, which caused serious vibration and this became worse as they were made larger. Toward the end of the nineteenth century the steam turbine was introduced, which operated smoothly and efficiently. Twin screws were next installed, followed in the twentieth century by triple and quadruple screws. These not only increased the ship's speed, but effected a great economy in the use of coal, thus enlarging the space available for cargo. Even more revolutionary was the substitution of oil for coal, which further enlarged the cargo space and was cleaner and more easily handled. Specialization in the type of vessel followed and vessels designed to carry special commodities were built, as refrigerator and ore ships, oil tankers, and others. The American merchant marine shared in these improvements.

Domestic shipping.—The coastwise, Great Lakes, and river traffic was reserved wholly for American vessels, and

foreign ships were excluded from it. The growth therefore reflected our economic development and the success of domestic vessels in competing with the railroads for the traffic. Taken as a whole, the shipping engaged in domestic trade increased from 2,800,000 gross tons in 1860 to 6,850,000 gross tons in 1914. Somewhat over half was engaged in the coastwise trade, conveying coal and fishery products from Baltimore, coal from Philadelphia, lumber, ice, and stone from New England, and lumber along the Pacific coast; the water shipments of cotton from New Orleans, once important, fell off after 1870. The bulk of the Great Lakes traffic also consisted of heavy, cheap, and bulky commodities—coal moving west and iron ore and wheat east. The tonnage of vessels on the Great Lakes grew from 467,000 gross tons in 1860 to 2,740,000 gross tons in 1914. The river traffic, on the other hand, showed a steady decline during this period.

Commercial policy of the United States: the tariff.—In the United States the tariff has generally been held to be a matter of domestic concern for raising revenue and providing protection to home manufactures and labor rather than a question of foreign trade involving international relations. The internal aspect, the effect of the tariff on our factories and farms, has been kept in view almost to the exclusion of the external or international aspect. In the making the tariff is a domestic issue, but in its effects and repercussions it is truly international, for it influences directly the inflow of goods and indirectly their outflow, and may affect our political relations with other nations. The tariff has so many aspects that it might with equal propriety be discussed from an industrial, a financial, or a commercial point of view, but it seems most logical to treat it from the standpoint of commercial policy. It must be said, however, that the tariff appeared on the stage after 1860 in the innocent rôle of a revenue measure, as it had at its first début in 1789.

The panic of 1857 had been followed by a series of deficits in the federal treasury, owing to the falling off of import duties, and in 1861 Congress, taking advantage of the absence of the southern members, passed the Morrill Act.

This was designed to restore the rates of 1846, but a protectionist flavor was given to it by the high duties imposed on iron and steel and on raw wool and woolen goods in an effort to attract the votes of Pennsylvania workers and western farmers to the Republican party. Scarcely had this act been passed when the Civil War broke out, and the need of revenue overshadowed all other considerations. The traditional revenue system of the federal government, according to which practically the sole reliance of the treasury had been import duties and the sale of public lands, was now revolutionized. By the Homestead Act the public domain was given away instead of sold, and this source of revenue was lost.

At first Congress relied largely on selling bonds and issuing paper money, but it soon became evident that taxation would have to be used more vigorously to raise the needed funds with which to meet the expanding costs of the war. From 1861, when the first additional customs duties were imposed, until 1865, wrote Professor Taussig, "no session, indeed hardly a month of any session, passed in which some increase of duties on imports was not made." The first vigorous resort to taxation was made in 1862 when two measures were passed, the first of which established a comprehensive system of excise taxation or internal revenue duties, and the other greatly expanded the tariff, both increasing the number of articles taxed and raising the rates. The free list of the Morrill tariff was cut down by one-half, and the average rate of duties was doubled, being raised to 37 per cent from an average rate of only 19 per cent under the tariff of 1857. But the climax was reached in the revenue measures of 1864. The internal revenue act of that year created twenty-two new kinds of taxes, which seemed to have been selected, as David A. Wells put it, on the principle of the Irishman at Donnybrook Fair: "Wherever you see a head, hit it; whenever you see a commodity, tax it." The tariff act, passed at the same time, greatly extended the system of import duties, enumerating 1450 separate articles and raising the average rate to 47 per cent.

Several causes combined to make possible the enactment of such extreme legislation; in the first place, there was

urgent need of additional revenues to carry on the war, and this was provided. In the second place, heavy import duties were necessary in order to offset the complicated and burdensome internal revenue excise taxes, which taxed domestic industries from 8 to 20 per cent. "If we bleed manufacturers," said Mr. Morrill, "we must see to it that the proper tonic is administered at the same time." And finally, interested persons who could profit by protection seized the opportunity to press for higher duties, which they almost invariably obtained. The absence of the southern members from Congress removed almost the only obstacle to high protection; opposition in the North virtually disappeared during the war and people acquiesced in rates higher than any the country had ever seen. One of the unexpected legacies of the war was thus a highly protective tariff system, which came to be accepted as the permanent commercial policy of the country even after the urgent revenue needs of the treasury had passed away.

After the war the need of financial reorganization was evident. The internal revenue taxes, which were vexatious and burdensome, were gradually reduced, until in 1872 there remained only a skeleton of the former confused mass; the taxes on spirits and beer, tobacco, banks, and a few unimportant ones on matches, patent medicines, etc., alone were retained. It would have been consistent to reduce the tariff duties which had been raised to offset these internal revenue taxes, but the pressure from interested manufacturers was too strong, and the tariff remained practically unchanged. The high duties brought in surplus revenues, however, and finally in 1870 the first step was taken to lower the tariff. Duties were reduced on a few purely revenue articles, which were not produced in the United States, such as tea, coffee, cocoa, wine, sugar, molasses, and spices, and the free list was enlarged, but the system of protection was barely disturbed.

Due to increased imports a surplus revenue of \$100,000,000 a year was pouring into the treasury and further reductions became imperative. At the same time there was a growing demand for tariff reduction among western farmers and others, who were not sharing in the prosperity of the eastern manufacturers. A general 10 per cent reduction

was accordingly made in the tariff in 1872, together with a decided lowering of the non-protective taxes on salt and coal and the abolishment of those on tea and coffee and on some raw materials like hides and paper. After the panic of 1873 and the resulting deficit in federal revenues this "horizontal" reduction was easily repealed in 1875 and the previous rates restored. Since nearly all the internal revenue taxes had been abolished in 1872, and most of the non-competitive imports were now on the free list, the treasury was almost wholly dependent for revenue upon the customs duties, and the system of protection was firmly entrenched. No further changes were made in the tariff until 1883. For twenty years, therefore, the war tariff remained practically unaltered. Manufacturers who prospered under the high protection thus granted proved strong enough to resist any efforts at tariff reform, and the system of protection which thus grew up, largely by reason of the necessities of the Civil War, became a permanent part of our commercial policy.

The revival of prosperity about 1878 again caused a great increase in imports and a corresponding increase in customs revenues, so that for several years, beginning with 1879, the surplus revenues amounted to over \$100,000,000 annually. A further reduction in the internal revenue duties was made in 1883 by lowering the rate on tobacco by one-half and by abolishing some other irritating and unimportant taxes, such as those on bank deposits and capital, checks, friction matches, patent medicines, perfumery, etc. The effect on the increasing surplus was slight, and the sentiment was strong throughout the country that a similar reduction should be made in the tariff duties. A tariff commission, appointed by President Arthur in 1882, recommended a "substantial reduction of tariff duties" of from 20 to 25 per cent. Congress, however, in which the protectionist element was powerful and well organized, refused to sanction such a radical change and in the tariff act of 1883 made an average reduction of only 5 per cent; the principal reductions took place in those articles which were least affected by foreign competition. After several unsuccessful attempts at tariff revision by the Democrats, who had elected a president and gained control

of the House in the elections of 1884, President Cleveland at last sharply defined the issue and committed the Democratic party to tariff reform by demanding the reduction of the tariff in his annual message of December, 1887. He declared the existing tariff to be a "vicious, inequitable, and illogical source of unnecessary taxation," and urged its revision in order to reduce the cost of living and to provide free raw materials.

The elections of 1888 resulted in a victory for the Republican party, which construed it as an endorsement of their policy of high protection. It was difficult to apply the "infant industries" argument any longer to the expanding manufactures of the United States—among which indeed the beginning of the trust movement had begun to show itself—but the "pauper labor" argument was used with telling effect in the campaign. "We cannot afford to have cheap labor in the United States," exclaimed William McKinley in an appeal to exclude European products from the American market by high protective duties. Protection was now advocated, not, as Hamilton had argued and Clay and Garfield had agreed, as a temporary aid to young industries, but as a permanent commercial policy. Commercial isolation rather than industrial maturity was the goal of the new policy. The McKinley Act of 1890, bearing the significant title of "an act to reduce the revenue and equalize duties on imports," was accordingly passed, greatly increasing the general level of duties up to an average of 49.5 per cent. This act imposed higher protective duties on wool, the finer grades of woollen and cotton goods, iron, steel, cutlery, tin plate, etc., and extended them so as to cover a number of agricultural commodities in order to win over the farmers. The act provided not merely for a retention of the protection conferred by the Civil War legislation, as was done by the act of 1883; it also marked a radical extension of the protective system. To cut down the surplus revenue sugar was put on the free list and a bounty of two cents a pound for fourteen years was granted on sugar raised in the United States. At the same time new and extravagant appropriations for pensions and other purposes disposed of any surplus then in the treasury.

The higher rates of the new tariff were soon reflected in higher prices of commodities and a violent political reaction took place which swept the Democrats into control again, so that by 1892 they had a majority in both House and Senate and a President of their own faith. In 1894 they passed the Wilson Act, but this fell far short of their campaign promises, owing to the high protectionist views of the Senate. The Democratic ideal of free raw materials was only partially carried out, though wool, lumber, and copper were placed upon the free list ; iron ore and coal, however, were still subjected to import duties. The duties were reduced on a number of protected commodities such as pig iron, steel, tin plate, chinaware, and others, but sugar was again placed upon the dutiable list with a surtax upon refined sugar ; this latter was construed as a victory for the sugar trust. The average level of duties under this act was 39.9 per cent, a 20 per cent reduction below the act of 1890. In order to make good the revenues sacrificed by this decrease the act also provided for an income tax of 2 per cent on all incomes over \$4000, but this section was shortly declared unconstitutional by the Supreme Court. President Cleveland was so dissatisfied with the bill that he allowed it to become a law without his signature.

The panic of 1893 and the long ensuing depression were characteristically attributed to the Democrats by the people, who are always inclined to hold the political parties responsible for economic conditions. The panic was the culmination of a long period of speculation and over-investment of fixed capital in railroads and other enterprises which did not yield prompt returns, though its immediate cause was the unsatisfactory currency situation. But the business uncertainty caused by the frequent tariff changes undoubtedly contributed to the prevailing economic disorder. As a result of these combined causes the Republicans were returned to power in 1896, and the following year they once more revised the tariff by the passage of the Dingley Act, which raised the general average of duties to 57 per cent, the highest ever attained in our history. Duties were reimposed on wool and increased on practically all branches of the textile industry and on some manufactures of iron and steel. Raw

sugar was more heavily taxed, both to provide revenue and to protect the slowly developing beet sugar industry.

For a decade the tariff dropped into the background as other issues crowded to the front, such as trust regulation, conservation, etc. But a conviction was steadily gaining ground among the tariff reformers that the tariff was largely responsible for the growth of large combinations—"the mother of all trusts is the customs tariff," declared H. O. Havemeyer, himself president of the sugar trust—and for the rise in prices and the consequent advance in the cost of living. The Republicans recognized this sentiment but urged that tariff revision should be entrusted to its friends, and in their platform of 1908 pledged themselves to this task. The Payne-Aldrich Act of 1909, which was supposed to carry out this pledge, reduced duties but slightly and in some cases even raised them. There was a slight movement to freer trade in the raw materials of manufactures, as in the case of hides which were placed on the free list; and works of art more than twenty years old were admitted free of duty. The wool and woolens duties (Schedule K) denounced by President Taft as "iniquitous," were left unchanged. The general level of duties under this act was about 40 per cent. A tariff board was also appointed but lapsed after three years because of lack of Congressional support.

The failure of the Payne-Aldrich tariff to revise the tariff further downward, especially in those schedules which protected the trusts, caused general dissatisfaction and was a factor in the formation of the Progressive party in 1912. Popular disapproval was sharply registered in that year by the election of a Democratic President and Congress, which the following year passed the Underwood Tariff Act. This represented the most complete reversal of tariff policy since the movement to high protection in the sixties, though it was by no means a free trade measure, the average rate of duties being about 30 per cent. Substantial reductions were made in many of the higher duties, as on woolen and cotton goods, and the free list was enlarged by the admission free of wool, iron ore, pig iron, steel rails, agricultural implements, and other articles; provision was also made for free sugar after

three years. Since a reduction of customs revenue was expected as a result of these changes, the act provided for the imposition of an income tax, now made possible by the passage of the Sixteenth Amendment. The outbreak of the World War I the following year caused a falling off of imports and of revenues from customs duties, and this was even more true after the United States entered the war in 1917. The Underwood Tariff Act therefore never received a fair trial either as a revenue measure or in respect to its effect on industry. Under the circumstances reliance for federal revenues came to be placed upon income and internal revenue taxes, which were greatly expanded, and no significant changes were made in the tariff schedules, except the repeal of the provision placing sugar on the free list. In 1916 a Tariff Commission of six members was created. Its functions were purely investigational and advisory, but its personnel was such as to command respect.

Commercial policy of the United States : reciprocity.—

The international commercial relations of the United States have been very different from those of most European nations, whose tariffs are usually the result of bargaining and higgling and are consequently different for different nations. We have always stood for equal treatment of all nations without discrimination, and under the "most-favored-nation" clause have been able to obtain from other countries equality of trade opportunities except in the case of France, Canada, and the colonies of some other nations. Insisting on our own right to raise our protective duties to any height we pleased we have not been concerned with the level of foreign tariffs, but we have insisted upon equality of treatment. With the development of our agricultural and mineral resources and the growth of large scale manufacturing, which greatly expanded our exports, the belief gained ground that the tariff might be used as an instrument to open markets for our products as well as to encourage domestic production. Our high protective policy of reserving the home market for the domestic manufacturer and excluding competing foreign products was necessarily a one-sided one and its inconvenience was more than once felt as our exporters sought foreign markets. Spasmodic efforts had been made to negotiate

reciprocity treaties with a few foreign nations, but in the three decades after 1860 a treaty with Hawaii in 1875 was the only one actually effected, and this was dictated by political rather than economic considerations.

In 1889 a Pan-American Congress, consisting of delegates from seventeen of the Central and South American countries, met in Washington, and as a step to closer commercial union recommended reciprocity treaties. James G. Blaine, then Secretary of State, urged that such a provision be incorporated in the McKinley tariff act. "There is not a section or line in the entire bill," wrote Blaine when advocating this, "that will open the market for another bushel of wheat or another barrel of pork." A clause was accordingly added giving the President power to impose by proclamation certain duties on sugar, molasses, coffee, tea, and hides (which were on the free list) if he considered that any country exporting these commodities to the United States was levying on the agricultural or other products of the United States duties which in his judgment were "reciprocally unjust and unreasonable." Reciprocal trade agreements were made with Brazil and a number of the Central American states—San Domingo, Salvador, Nicaragua, Honduras, and Guatemala—with Spain for Cuba and Porto Rico, and with Great Britain for most of the West India islands and British Guiana; of the European nations, Germany and Austria-Hungary alone made such agreements. In most of these cases the United States obtained material concessions in return for a mere promise to retain the enumerated articles on the free list. The Wilson tariff practically destroyed the system of reciprocity by reimposing duties on sugar, since it depended upon freedom of that article, and after 1894 only the treaty with Hawaii remained in force.

The principle of reciprocity was reaffirmed in the Dingley Act of 1897, but along different lines and in weaker fashion. Under section 3 the President was authorized to impose certain duties on coffee, tea, tonka beans, and vanilla beans coming from countries which in his judgment levied duties on our exports "reciprocally unequal and unreasonable." He was also authorized to reduce by a definite amount the duties on argol (crude tartar), brandies, champagne, wines,

paintings, and statuary in return for concessions by other countries. The purpose of the latter provision was to obtain the advantage of the minimum tariff from France. Acting under his authority the President proclaimed nine treaties with European nations: Great Britain, France, Germany, Italy, Portugal, Switzerland, Spain, Bulgaria, and Holland. The repeal of the Dingley Act in 1909 again ended this experiment. A more general reciprocity provision of this act, allowing general tariff decreases, never was put into effect as the Senate refused to approve the treaties, mostly with our Latin American neighbors, submitted by the President. A reciprocity agreement with Canada was passed in 1911, but was rejected by the Canadians. Certain bargaining powers were granted to the President by the Underwood Tariff Act of 1913, but President Wilson made no use of them. No further attempts were made during this period to negotiate reciprocal commercial treaties with other nations.

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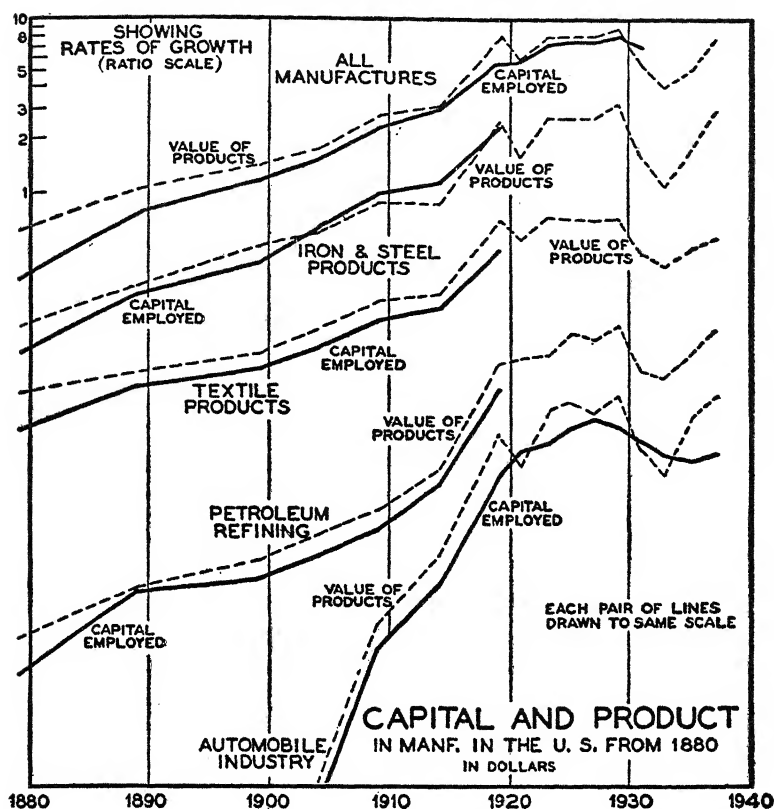
CHAPTER XXV

FINANCE AND CURRENCY

Some basic principles.—Economists tell us that there are three factors of production : land, labor and capital. The part played in our economic development by land and the great heritage of natural resources upon or in it has been stressed in the chapters on agriculture, colonial industries, and the westward movement ; and the part played by labor has been told in chapters on labor, slavery, and in other connections. But capital in the sense in which the economist uses it needs further elaboration.

Capital has been defined as produced goods intended for further production, and by that is meant reapers, dynamos, typewriters ; in fact, tools, machines, and equipment of all kinds. In the past hundred years the cost of producing a bushel of wheat has declined 80 per cent, chiefly through the use of machinery. Likewise the cost of producing steel, making cloth, preparing meat, and of pursuing countless other industrial activities has been reduced primarily by the aid of machines and to a smaller degree by the increased skill of labor. Put improved tools in the hand of the worker and he becomes much more productive. Before the invention of the cotton gin it took one worker ten hours to separate the seeds from a pound and a half of cotton lint ; a hundred years later a worker operating an improved machine could gin from 1500 to 7500 pounds of lint in ten hours. Improved machinery has been a distinguishing feature of the industrial revolution and the chief cause of a standard of living that is estimated by Rufus Tucker to be four times better in 1932 than it was in 1790.

Statistical data on the growth of capital are difficult to obtain and far from satisfactory, but charts computed by Carl Snyder and showing the rates of growth of the value of manufactured products and of capital invested in manufac-



Reprinted from Carl Snyder, *Capitalism the Creator* (New York, 1940), 123.
Courtesy of the author and of The Macmillan Company.

turing offer a reasonably reliable index of the trend in the last hundred years. As Snyder himself has admitted, the parallelism of these chart lines does not conclusively prove that the growth of the capital has caused the growth of the value of manufactures, but the "invariable concomitance" of the lines in case after case does suggest that relationship so repeatedly that he is willing to accept it as proof.

Capital, economists agree, is the result of saving and saving means abstaining from spending money for something that will give immediate pleasure. Anyone who saves is a capitalist and is contributing to the capital supply of the na-

tion whether he buys, say a tractor, or deposits his money in the bank and makes it possible for another to borrow his savings and buy. Bank savings are often known as "liquid" capital because, in a sense, they represent a claim on a certain amount of unconsumed products which can be traded for help in manufacturing. Since savings are reckoned in terms of money, money is often erroneously confused with liquid capital. Repeatedly in our history pioneer communities have mistaken their lack of capital for a lack of sufficient money supply and thought to remedy the situation by resort to paper money inflation. But tools and other capital cannot be manufactured by resort to the printing press, for such money does not come into being through the accumulation of goods. Often all that is accomplished is a rise in the price of existing goods and the ruin of the government's credit.

Sources of capital.—It is probably a mistake to assume that most of industry's capital was derived from myriads of small personal savings—the vast majority of people spent all they could get. The Brookings Institution estimates that personal savings in the very prosperous year of 1929 amounted to \$18,000 millions, two-thirds of it saved by those with incomes over \$10,000 and this was perhaps even more true in earlier and less prosperous eras. Snyder claims that "The great bulk of new capital appears to be derived from industry itself" and cites the long established tradition of good corporate management for the distribution of the annual surplus, namely, "a dollar for dividends and a dollar for betterments." What evidence there is suggests that 150 years ago, when the industrial revolution was beginning in this country, the small factory owner provided much of the capital himself. In forty years Samuel Slater accumulated \$690,000 by plowing back some or all of the profits and at times some of his wages as well into the textile business. Two or more men as partners could usually supply and accumulate capital more rapidly than one; and as the corporation developed it proved even more effective than a partnership. The trend appears to have been for individuals to supply an ever smaller proportion of the capital as the century progressed, and for corporations to handle an increasingly large percentage of the business. A Twentieth Century Fund study

shows that by 1904 manufacturing corporations, while only a third as numerous as individually owned businesses or partnerships, turned out 73.7 per cent of the products. Ten years later the figure had risen to 83.2 per cent.

Funds for long term investment were also obtained from various new institutions that grew in importance during the nineteenth century. Life insurance company assets grew from \$4 millions in 1850 to nearly \$5000 millions in 1914; deposits in savings banks rose from an estimated \$150 millions in 1860 to \$8500 millions in 1913, and assets of building and loan associations increased from \$625 millions in 1895 to \$1358 millions in 1914. All of these encouraged thrift, stimulated capital accumulation, and invested large portions of their funds in the business growth of the country.

The corporation.—The industrial revolution led to the widespread use of the corporate form of business organization. J. S. Davis has estimated that there were only 335 corporations before 1800, most of them (200) newborn turnpike companies or some other type of business "affected with public interest." An evil and monopolistic connotation had been attached to the corporation in the public mind ever since the South Sea Bubble episode of 1720, and democratic legislators were loath to grant corporate charters to private enterprises. Gradually, as the usefulness of corporations was realized, suspicions abated and restrictions were relaxed. By 1860 several states had general incorporation laws for certain types of business, which meant that a company no longer had to secure its charter in the form of a special law. Many of the charters now lacked the once popular clause limiting the life of the corporation. Probably the most important change was the withdrawal of the earlier imposition of unlimited (partnership), triple, double, or proportional, liability of stockholders in favor of simple limited liability. This enabled corporations to draw capital from more investors since participants shared in the profits but were protected against losing more than the value of the stock. Thus the corporation was an artificial person, and when its funds were exhausted creditors could recover no more from the stockholders. As an artificial person the corporation could stand or bring suit in a court of law and also it did not die with the

death or retirement of a member. The corporate device with its features protecting the business man and the investor was of invaluable assistance to the expanding business unit. By the Civil War it was extensively used by textile, iron, and other manufacturing concerns, by railroads, by insurance companies, and by banks. In the years that followed countless other businesses adopted it.

Like any good idea the corporate device was subject to abuse. By the eighties corporation charters of almost any description could be had for a price in Delaware, Maine, and New Jersey. The first state to put the granting of charters on a systematic revenue-producing basis was New Jersey and her conduct illustrates charter-mongering at its worst. The custom of "interstate comity," by which any state treated the institutions of other states as it treated its own, encouraged many companies to seek their charters at the hands of the most liberal state, and virtually assured a situation where the state with the most lax incorporating practices would set the standard for the nation. In 1889, at a time when public outcry against the trusts was causing several state legislatures to pass anti-trust laws, New Jersey revised her corporation law to permit corporations to acquire the property or stock of other corporations, thus assisting monopolies to evade restrictive legislation aimed at them. According to Lincoln Steffens, when the New York legislature threatened to investigate the sugar trust, a law was rushed through the New Jersey legislature in eighteen hours' time forbidding any New Jersey court to maintain an action against the stockholders or directors of a New Jersey corporation if the action was started because of the laws of another state. Moreover, this shameful act was advertised to induce corporations to incorporate in New Jersey.¹ Early in the nineties a company known as the Corporation Trust Company of New Jersey was founded, which made it a business to handle, for a modest fee, the procedure of incorporating any concern and to serve as the official main office. This company displayed at its Jersey City main office in 1905 the signs of approximately 1500 large corporations. New Jer-

¹ L. Steffens, "New Jersey : A Traitor State," *McClure's Magazine* (May, 1905), 50.

sey collected millions of dollars from its charter-mongering business and wiped out the state debt. Any state of course was free to compete and in 1899 Delaware passed a law that equaled New Jersey's. It is small wonder that the early years of the twentieth century witnessed a widespread although unsuccessful movement for a federal incorporation law.

Another development favorable to the corporation was the protection against sudden or local prejudices which the courts provided by their interpretation of the federal constitution. The first clause of the Fourteenth Amendment provided, "nor shall any State deprive any person of life, liberty or property without due process of law." Intended originally, in 1867, to protect Negro enjoyment of civil rights, it was within a few years employed to protect corporations against discriminatory legislation. Ex-Senator Roscoe Conkling of New York claimed before the Supreme Court in 1882 that the framers of the amendment intended such protection from the outset, but this conspiracy theory is now largely discounted. In both this and the similar clause of the Fifth Amendment, which restricts federal legislation, the word "person" was interpreted to include a corporation, which is an artificial person; the word "property" was translated to include income, and the phrase "without due process of law" to mean "unreasonably" in layman's language. Thus the two amendments forbade either the state or federal governments to deprive any corporation of its income in a manner that was "unreasonable" in the opinion of a majority of the judges.

Investment banking.—In order to start a new business the promoters often need more funds than they can provide themselves, and in order to expand the capacity of a successful enterprise additional amounts are frequently required beyond what the company has saved. It is through investment banks that such demands for long term capital are satisfied if large amounts are involved. During the period under review the process of investment banking was crystallized into three steps. First, the standing and prospects of the firm were carefully investigated. Second, if these were satisfactory, the investment bank bought the securities after

arranging with a syndicate of other investment banks to guarantee their sale above a certain price. The third step was the actual marketing of the securities to investors.

Before the Civil War investment banking was carried on by brokerage firms or large commercial banks, and the domestic market consisted of a few wealthy persons, several large insurance companies, a growing number of banks, and numerous merchants and manufacturers. Not until the sixties was there a serious attempt to sell securities to the small investor. Jay Cooke, an energetic Philadelphia banker, revolutionized American investment banking and became a high pressure salesman of government securities. By hiring hundreds and thousands of agents, resorting to the house to house canvass, and appealing to the patriotic motive he helped the treasury sell \$2000 million of bonds. After the war he directed his talents toward financing the building of the Northern Pacific Railroad, but his failure in this undertaking precipitated the panic of 1873. Cooke's place was later taken by J. Pierpont Morgan, who rapidly made a reputation at home and abroad as a shrewd and sound investment banker by disposing of a huge block of New York Central stock for William Vanderbilt, by helping to reorganize several tottering railroad systems, and finally in 1901 by setting up the country's first billion dollar corporation, the United States Steel Corporation. Other large firms, second only to Morgan's, were J. and W. Seligman and Company, which shifted from a clothing to an international banking business in 1862, Kuhn, Loeb and Company, also active in railroad reorganizations, and N. W. Harris and Company of Chicago, which began by peddling western municipal bonds and mortgages. Meanwhile, John D. Rockefeller was erecting a mammoth organization in the speculative petroleum business. From the outset he insisted on the accumulation of large cash reserves so as to be in a position to purchase opportunely and also to be independent of banker control. Pursuance of this policy eventually necessitated investment of a portion of these reserves, which was done largely through the City Bank headed by James Stillman. Known as the "Standard Oil Bank" this concern was a worthy rival of J. P. Morgan's house by the end of the century. The marketing of securi-

ties to finance gigantic trusts led to further expansion of the investment banking mechanism. The funds of leading insurance companies controlled by financial leaders were unwisely invested, and two panics of this period were largely caused by the speculations of the rich. Finally, in 1911, Kansas passed the first law to regulate the selling of securities, and a year later Congress itself called in Morgan and others to testify as to the existence of a "Money Trust." The conclusion was reached that existing banking and credit practices resulted in a "vast and growing concentration of control of money and credit in the hands of a comparatively few men." Although public opinion was shocked by some of the findings, little was done to remedy the situation.

The stock exchanges.—Whereas the investment banks sell new securities, the stock exchanges are a market where subsequent sale of many of these securities may occur. Daily records of the transactions on the floors of the exchanges provide information on the current value of securities.

The New York Stock Exchange dates its informal origin from 1792, but was not formally organized and housed until 1817. Government bonds, stocks of the United States banks, and state-sponsored internal improvement projects were the principal securities traded: the first railroad stock to appear on the exchange was that of the Mohawk and Hudson Railroad in 1830, and the first industrial shares were of the New York Gas and Light Company in 1831. Throughout the century trading in bonds was several times greater than that in stocks; and of the stocks, railroads were most numerous and active. As late as 1898 there were only twenty industrial issues officially "listed" on the New York Stock Exchange, although between 1885 and 1910 the Unlisted Department facilitated trading in new industrials still considered too speculative to be formally accredited. In 1857 there was an average turnover of 70,000 shares a day on the New York exchange, and the year 1886 brought the first day in which 1,000,000 shares were traded. Other big cities had stock exchanges, but their volume of trading was very small compared to New York's. Various innovations appeared after the Civil War, such as the electric stock ticker in 1867, telephones in 1878, and the required registering of

securities by listed companies in 1869 to prevent their over-issuance.

Commercial banking.—The rough generalization is sometimes made that investment banks provide business concerns with their long term capital and that commercial banks provide the short term capital. To illustrate, on the one hand, a ten year bond issue may be sold through an investment bank to provide expensive new machinery which will require long operation before it pays for itself ; on the other hand, a three months' loan from a commercial bank to buy raw materials can be repaid as soon as the finished goods are sold to the wholesaler. There are exceptions to this rule-of-the-thumb distinction between investment and commercial banks : for example, pre-Civil War banks were sometimes chartered for the express purpose of providing all the capital for a business, early banks all too often tied up their capital in land and mortgages, and in the 1920's banks were inclined toward stock speculation because of the absence of good short term commercial paper. But it has come to be realized that a bank should, if possible, keep its assets in a reasonably "liquid" form ; that is, it should be able to convert them into cash quickly. One of the best types of loan from this viewpoint is the 30-, 60-, or 90-day loan to finance the purchasing of raw materials to be processed, or to pay for stocks of goods. In either case the sale of the goods will supply the funds for the repayment of the loan.

Another important function of the modern commercial bank is to discount drafts or bills of exchange so that the intended receiver may obtain needed cash long before he otherwise would. In order to perform these services banks loan their own liquid capital, the money of depositors, and, most important, *they loan their credit*. Such credit has taken two principal forms : first, a banknote, which is nothing more than the bank's own demand promissory note, which is generally recognized by the public as money and hence acceptable where an individual's promissory note would not be. A hundred years ago a bank which gave a borrower its own banknotes for his promissory notes was merely substituting its superior, or at least better known, credit for the individual's inferior credit. The other and more recent method a bank

has of lending its credit is to create on its books a deposit to the borrower against which he may draw checks at will which the banks will honor immediately. Of course a bank had to keep some specie available to pay persons who presented notes for redemption or wanted checks cashed, but experience showed that nowhere near complete backing in specie was needed, and if the rest was in short term commercial paper or could be turned into cash shortly, the bank was safe enough.

National banking system.—The period from 1833 to 1866 were the “dark decades” of American banking. With the policing activities of the Second Bank of the United States removed, banks mushroomed and abuses spread. Although the panic of 1837 taught many their lesson the hard way, banking remained on a low plane. Banknote detectors were needed to identify counterfeits and notes often circulated at a discount. The need for a sound banking system such as New England or Louisiana enjoyed was keenly felt, and the Civil War supplied a second motive for reform. The federal government was making strenuous efforts to market its bonds and saw in the popular state banking system known as “free banking” a way to improve the currency and sell bonds at the same time. One essential of free banking was that the bank should buy state bonds with some of its capital, exchange the bonds for banknotes obtainable from a state official, and then use the notes in its business. If the bank’s loans were unwise and the bank failed, the state official was empowered to sell the bonds and use the proceeds to redeem the notes. The federal government adopted this idea and drew up in 1863 what was called the National Currency Act because it was expected to provide a stable uniform national currency. Later the name was changed to National Banking Act.

Most of the details of the early provisions of the National Banking Act are of little interest and so it will be described as of 1874. Banks were encouraged to secure their charters from the federal government, but those doing so had to meet certain requirements and insert the word “national” in the bank’s title. The minimum capital permitted was \$50,000 for national banks located in towns of under 6000 persons,

and this requirement was graduated upward to a minimum of \$200,000 in cities of over 50,000. Half of this had to be paid in immediately and the other half within six months. Stockholders stood liable to lose their investment and up to par value of their stock in addition in case of insolvency; in other words, liability was "double." All banks had to subscribe to at least \$30,000 or as much as one-third of their capital, whichever was larger, in government bonds, but in return, as under the free banking system, they might obtain banknotes up to 90 per cent of the par value of the bonds. These notes could then be loaned to customers, thus assuring the banks double interest on this portion of their capital. Notes of all national banks were to be receivable at all other national banks at par. Loans on real estate and on the security of the bank's own stock were forbidden and no loans of over 10 per cent of the bank's capital might be made to a single borrower. The new system was obviously framed to eliminate many banking abuses, but it was such a strict and excellent law, especially with regard to note issues, that most state banks preferred not to join. The measure also failed in its immediate purpose of a stimulant to bond sales.

The government, however, determined that it would succeed in its other purpose of providing uniform currency. Consequently, Congress passed a law in 1865 placing an annual tax of 10 per cent on the notes of all state banks, beginning July 1, 1866. The number of national banks jumped from 139 in 1864 to 1582 in 1866 and the number of state banks dropped from 1089 to 297. An important corollary consequence was a speeding up of the trend away from making loans in the form of banknotes and toward making them in the form of deposits subject to check, a system already popular in some older and more settled areas. Because of the 10 per cent tax on notes this was the only way state banks could lend their credit; moreover, national bank reserve requirements against notes, particularly before 1874, were so strict in comparison to requirements against deposits, that national banks for this reason also regarded the method with favor. Once its advantages were fully realized the number of state banks increased rapidly. They enjoyed certain advantages from the bankers' viewpoint: they could be started and

operated with less capital ; they had more lenient deposit reserve requirements ; they could lend on real estate, and they were less restricted in other respects. By 1895 there were a few more state banks than national banks, although their combined capital and surplus was only one-third as great as those of the national banks. Fortunately, state governments had begun to improve their banking laws by this time.

Defects of national banking.—Although definitely superior to the haphazard system that had prevailed before the Civil War, the national banking system did have serious faults and it was not long before these became apparent. (1) The notes were “inelastic” ; that is, the number available for lending did not readily expand at times when business was more active and then contract when a dull period occurred. The notes were backed by government bonds, and if bond prices were high, banks were inclined to sell the bonds and would then have to retire the notes, and if bond prices were low, banks might invest in bonds and then have notes they were anxious to lend. Bond prices and the possibility of lending notes often had little relation to each other. (2) Since national banks could not lend on real estate, they were of little assistance to the agricultural classes, who had to go without national bank aid and secure high-priced assistance from state banks or private capitalists. (3) Perhaps the most important defect was the decentralization of deposit reserves. The law provided for three classifications of banks according to size : the smallest or “country” banks might keep three-fifths of their deposit reserves in the middle-sized or “reserve city” banks or in the largest or “central reserve city” banks, and the middle-sized banks might keep half their deposit reserves in the largest or “central reserve city” banks. Since the larger banks paid interest on these deposits, the result was that the lesser banks made the most of this opportunity and a large portion of their reserve funds gravitated to the cities, especially New York City. In order to pay interest the large banks had to lend the money themselves, and they preferred to make short and well-secured loans. An obvious solution appeared to be the “call money market” ; in this market stock brokers sought money, which they would

repay on demand and would protect with their customer's securities until the customer paid them or ordered resale. Often the broker's customer was speculating and hoped to sell again at a profit. In short, a considerable portion of the nation's banking reserves was being used to finance stock speculation.

On several occasions the failure of some well-known business concern precipitated a serious panic: outlying banks demanded their reserves, New York banks demanded early payment from brokers, call money rates soared, speculation costs rose, stock prices dropped because many persons were selling shares and few were buying, and financial panic spread over the land leading to runs on banks. A bank might have enough money on hand to stop the run, or it might not, but one thing was fairly certain—help was hard to obtain. No other bank would easily part with its precious specie reserve, because it, too, might have to face a run. Under the circumstances good banks as well as poorly managed banks suspended payments or sometimes went under. Crises occurred in 1873, 1884, 1893, and 1907. Finally, after the panic of 1907 a National Monetary Commission was appointed to study foreign banking systems and propose an adequate central banking system for this country. A central bank is fundamentally a bankers' bank, a source of funds in time of need if the credit of the appealing bank is sound. The Federal Reserve System, with twelve regional central banks, established in 1914, was the solution of the problem. It will be described in a later chapter.

Monetary principles.—Money is fundamentally a medium of exchange. Paper money cannot be used as food or shelter nor is it likely to be used as fuel or clothing, but it can be exchanged for these essentials of life. Money is also a measure of value; that is it measures the relative values of say, a heifer, a hammer, and a haircut. It is just as important that money itself should be stable in value as that a yardstick should always have the same length. Unfortunately, no satisfactory way has yet been found to accomplish this. The history of the world's monetary units demonstrates that over a long period of years they tend to fall in value. In emergencies governments yield to the need or demand for more

money. If money is issued in abundance, the value of a unit of it will tend to decline ; in other words, prices will rise — more money is required to buy a given quantity of goods. This occurred in colonial times, during the Revolutionary War, and in fact during every major war. The above is admittedly a very simplified statement, and some obvious exceptions may be pointed out, such as that prices do not rise either evenly or immediately, and that those who spend the newly issued money before it has depreciated do come close to "getting something for nothing." Nevertheless, it is questionable how much increased production is caused. And it is certain that severe economic disturbances are often brought about ; for example, debtors gain at the expense of creditors and wage-earners suffer because prices rise more rapidly than wages.

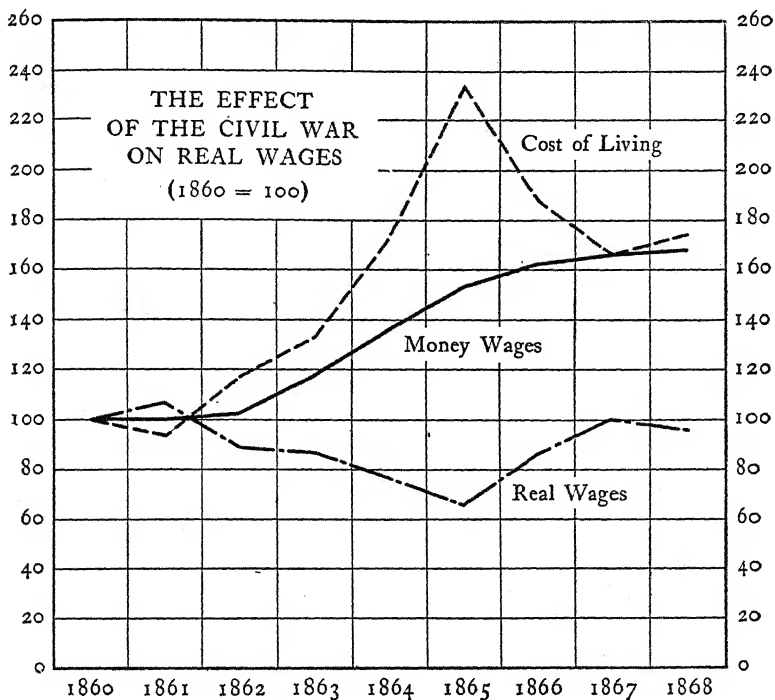
Money has been issued for two fundamental reasons during our history : (1) to provide a medium of exchange ; (2) to provide capital or, in other words, to take the place of savings that were not in existence. As already indicated, the first purpose is economically sound, and in a growing country some increase in the money supply would be expected. It is the second purpose which has caused the trouble and about which political controversy has raged. Money has been confused with capital goods. Those desiring "more money" have sometimes been politicians who dared not impose the needed taxes. For example, a long forgotten Senator from Wisconsin who favored the original issue of greenbacks at the outset of the Civil War said, "There is no probability that a currency based upon the resources of a great nation — will depreciate 50 per cent or even 5 per cent. No such paper ever did depreciate, and none such, I venture to predict, ever will."² Others desiring more money have been people living in the newer sections of the country where capital was scarce, risks considerable, and interest high. The cry of "there is not enough money in circulation" has been hard to combat, since almost any individual would admit that he did not have enough money. Human wants being insatiable, there never will be enough to buy all everyone

² Senator T. C. Howe, *Congressional Globe*, February 12, 1862, 763. Cited in E. W. Kemmerer, *Kemmerer on Money* (Philadelphia, 1934), 63.

wants. And it should be admitted that sometimes the supply of money was declining relative to the needs for it: for example, during the generation after the Civil War. Two movements to increase the money supply stand out in the two generations between the beginning of the Civil War and the beginning of World War I; one of them sought to increase the supply of paper money, notably greenbacks, and the other to make money plentiful by the unlimited coinage of silver. Both grew out of financial dislocations caused by the Civil War, and to understand them the financial conduct of the war must be examined first.

Financing the war.—The Civil War began with the firing on Fort Sumter, April 12, 1861. In the North it was generally believed that the war would be of short duration and consequently slight resort was had to taxation. The government counted on borrowing most of the money needed. During the first year \$8.52 was raised by the treasury for every \$1 collected in taxes, and even after four years the ratio was not better than three to one. The final record showed \$667 millions collected in taxes as against \$2621 millions obtained through loans. At an early date more pressing needs for cash were felt than could be satisfied by loans and so \$50 millions were issued of demand treasury notes in denominations as low as \$5. They were receivable for public dues and designed to circulate as money. It was these notes and the misfortunes of war that caused the suspension of specie payments on December 30, 1861. Subsequent needs for cash led, in February, 1862, to the issuance of \$150 millions of United States notes, \$50 millions being used to retire the demand treasury notes. The new notes were known sometimes as "greenbacks" because they were the first to be printed with green ink, and at other times as "legal tenders" because they were the first legal tender notes put out since the adoption of the Constitution. It had been assumed from Article I, Section 10, forbidding any state to "make any thing but gold and silver Coin a Tender in Payment of Debts" that only gold and silver might be legal tender. A second issue of \$150,000,000 occurred in July, 1862, and a third of similar amount in March, 1863, making a total of \$450,000,000 authorized, or approximately one-seventh of the cost of the war to the North.

The successive issues of greenbacks caused the circulation per capita to rise about 71 per cent. Grave injustices were caused by the rise in the general price level. Wage-earners suffered because the cost of living rose more rapidly than wages. The accompanying graph shows how



Based on A. H. Hansen's "Factors Affecting the Trend of Real Wages," *American Economic Review* (March, 1925), XV, 32.

Real wages are obtained by dividing the cost of living into money wages : real wages are thus 100 if cost of living and money wages remain identical. Wage-earners are losing ground only if real wages fall below 100.

real wages declined but does not relate personal episodes of families' sacrifices in food, clothing, and many things formerly looked upon as necessities. Lowering one's standard of living is a painful process. Also losers were persons whose salaries were on a contract basis and revised only at long intervals. A second injustice was the fact that debtors could pay their creditors in money that would purchase less than

the dollars originally loaned—a farmer could repay his mortgage in 1864 through the sale of about half as much wheat, corn, or pork as would have been required in 1861 when possibly he borrowed the money. Persons with savings accounts or money invested in bonds saw the purchasing power of their savings dwindle as prices climbed. And third, some business men made exorbitant profits at the expense of their customers as prices rose far above original cost and kept rising so that profits were made on replacements too. The number and liability of failing firms declined sharply from \$178 millions in 1861 to \$8.6 millions in 1864, suggesting that nearly everyone was making money. Professor W. C. Mitchell has estimated that the use of greenbacks increased the cost of the war to the government by \$589 millions, largely because the rise in prices caused a greater expenditure and hence a greater public debt burden than if metallic money had been used. In other words, even from the government's viewpoint the paper money method was no saving in the long run.

The Greenback Movement.—Various injustices produced by the greenback inflation, coupled with the desire of western and debtor farm groups and the National Labor Union for more money in circulation or more capital, as they thought, produced what was known as the Greenback Movement after the war. Government bond issues specifically called for payment of interest in gold, some of them promised that the principal would likewise be paid in gold, all of them had been sold with the general understanding that both payments would be in gold ; indeed, there can be little doubt that this expectation furthered the sale of the bonds. The bonds had been bought with greenbacks and their retirement in gold after the war assured the holders of a handsome profit. Profits are the reward of those who take risks, but many were quick to point to the unpatriotic nature of profit made at the expense of one's government in distress and to urge that at least some of the bonds be retired with greenbacks. This was the "Ohio Idea," prominent in the presidential campaign of 1868 and voiced in the phrase, "The same currency for the bondholder and the plowholder."

At the close of hostilities Secretary of the Treasury Mc-

Cullough said that the greenbacks "ought not to remain in force one day longer than shall be necessary to enable the people to prepare for a return to the constitutional currency." Congress supported this view and the currency was contracted with a view to an early resumption of specie payments. By February, 1868, the greenbacks in circulation had been reduced from the 1865 peak of \$431,000,000 to \$356,000,000, and the price of a gold dollar in terms of greenbacks had fallen sharply. But so had other prices and the opposition to further greenback retirements was vigorous. Continuation of the policy, it was claimed, would hurt the debtor class, depress business, cause unemployment, and lessen government revenues. For nine years inflationists and deflationists argued with each other, but in the end specie payments were resumed January 1, 1879, and the circulation of greenbacks was fixed at \$346,000,000, where it has remained ever since. The good name of the American dollar was preserved. Resumption with a smaller gold dollar, devalued to correspond to the higher price level, would probably have been a more sensible compromise but was not urged. Such an attempt would at least have helped eliminate some of the evils of deflation. As it was, the nation suffered first from inflation and then from deflation. No doubt some people gained in one and lost in the other, but there is little likelihood that their gains and losses balanced, and of course many gained in both or lost in both.

The Free Silver Movement.—The resumption of specie payments, the return of prosperity in the late seventies and the stigma of radicalism that attached to the Greenback Party led to the decline of the Greenback Movement. Meanwhile, another cheap money program was appearing and, since it involved the precious metal—silver—with which inflation was not associated, it gained wider support. The new rallying cry, "free coinage of silver at 16 to 1" needs explanation. The nation had been on a bimetallic standard from 1792 to 1862 (when specie payments were abandoned); that is, anyone was permitted to bring any amount of gold or silver to the mint to be coined into dollars. That was free coinage. Since 1834 the silver dollar containing 371.25 grains of pure silver had had about 16 times the grain content of the gold

dollar of 23.2 grains of pure gold. That was 16 to 1. The government's assumption that gold was 16 times as valuable as silver did not square with the facts, however ; it underestimated the value of silver slightly so that people were discouraged from bringing silver to the mint to be coined, and this was particularly true after the gold rush of 1849 threw enormous quantities of gold on the market. In 1853 the government reduced the silver content of all silver coins except the dollar and withdrew the free coinage privilege of all but the dollar. Then in 1873 the privilege of free coinage of the silver dollar was also removed.

Charges subsequently were made that British and eastern seaboard capitalists had succeeded in a midnight plot to adopt the single gold standard and hurt the debtor interests. The law demonetizing the silver dollar consequently was called the "crime of '73." There is no reputable support for this belief ; the evidence shows that the act was considered in five sessions of Congress, read repeatedly, debated at length, and was merely a recognition of the fact that the silver dollar had long been out of circulation. It was the fall in the price of silver, caused by abandonment of free coinage of silver in several European nations, discoveries of new silver mines in this country, and new and cheaper methods of extracting silver from the ore, that led to the cry of anguish over the new law. Now it would have been worth while to bring silver to the mint to be coined, but it was no longer possible. Exactly how the silver miners gained the assistance of the western and southern farmers is not clear, but suffice it to say that the depression and low prices for wheat, cotton, and other farm produce, coupled with widespread resentment against eastern mortgage holders, railroad magnates, and others, made the conspiracy theory easy to believe. By 1877 "free silver" was a national issue. At this time 371.25 grains of pure silver, enough to become a dollar if free coinage existed, was worth about 90 cents.

In 1878 the House of Representatives passed a bill restoring bimetallism, but the Senate amended it to provide for the coinage of two to four million dollars of silver a month. This was the Bland-Allison Act, supported by the West and South and opposed by the Northeast. The law was a disap-

pointment for most of the twelve years it was in operation for a number of reasons. Successive Secretaries of the Treasury limited silver purchases to the minimum. The silver dollars did not circulate readily until the idea of substituting one dollar certificates for each silver dollar was devised in 1886. The silver money did not raise the price level as had been hoped. Although the total circulation of money per capita rose from a post-war low of \$15.32 in 1878 to \$22.82 in 1890, the price level fell slightly. The industrial development of the country was proceeding during this period at an unprecedented rate and it would appear that the addition to our money supply in the form of silver did not even keep pace with our growing monetary needs. This was despite the fact that the larger currency supply was further supplemented by deposit currency circulating through the growing use of checks.

The silver advocates could never forget that the Bland-Allison Act was a compromise and that the supposed "crime of '73" remained to be righted. By 1890 they were strong enough to obtain more favorable action in Congress, although they were still unable to secure a free coinage act. Trading on their support of a tariff law they obtained the passage of the Sherman Silver Act, which provided that the Secretary of the Treasury should buy 4,500,000 ounces of silver each month, an amount equal to the total output of the country at the time and about twice that required by the 1878 law. Payment was to be made in legal tender treasury notes and the Secretary was directed to "redeem such notes in gold or silver coin, at his discretion." A reminder was added, however, that it was "the established policy of the United States to maintain the two metals on a parity with each other upon the present legal ratio, or such ratio as may be provided by law." This was generally interpreted to mean that the person asking for coin might make his choice and this would presumably be gold. The clause was soon to assume considerable importance.

Crisis and the endless chain.— During the three years the new law was in operation \$156 millions of treasury notes were issued. Since business was stagnant most of the time, such expansion was not needed ; in fact it was ill-timed, and

caused considerable anxiety because upset conditions abroad and at home were causing an outflow of gold that depleted the treasury's gold reserve. This was supposed to be kept above a minimum of \$100 millions, and it was feared that redemption might have to be made in silver if the gold reserve fell below this sum. Although this would have been quite legal, resort to the less valuable metal would have meant abandonment of the gold standard, a sharp fall in the value of the dollar, and perhaps even financial chaos. When panic broke in 1893, President Cleveland announced that notes would be redeemed in gold as long as gold lasted and urged Congress to repeal the Sherman Silver Act of 1890. Congress complied with considerable reluctance and by a purely sectional vote. Silver advocates felt that this was silver's opportunity and that once again the cheaper metal had been unnecessarily sacrificed for the benefit of gold.

Repeal ended the threat of inflation but could not undo the harm that had already been done. Nor did it restore prosperity as some had prophesied it would. Public revenues dried up to such an extent that the treasury had to pay ordinary bills out of its gold reserve, and by January, 1894, this fund had fallen to \$66 millions. During the next two years four large loans totaling \$262 millions were arranged to replenish this reserve fund, which was continually wasting away because of the operation of a so-called "endless chain." Bonds were sold to obtain gold, but some of the purchasers presented notes for redemption in gold to buy the bonds; other persons presented notes to obtain gold for foreign payments. Not only that, but the government itself, hard pressed for funds, paid out the notes again to meet its expenses. These notes were again presented for redemption, the gold reserve was further diminished, a new loan had to be arranged, and so the chain continued. The successful but expensive help of the Morgan-Belmont syndicate, which agreed to secure gold abroad and take steps to present its outflow here, did much to slow down the chain. Returning prosperity finally ended the government deficits and created a need for the additional money supply.

The Free Silver campaign.—The question of whether the Secretary of the Treasury should use a dubious authority

to negotiate loans or should use his clear authority to redeem treasury notes in silver did much to keep the topic of free silver in the public mind and eye. Furthermore, the depression and continued downward trend of prices stimulated the activities of the inflationary elements. The new Populist Party, which had made a strong showing in the West in 1892 by championing free silver, continued to grow and in 1896 its most eloquent orator, William Jennings Bryan, captured the Democratic nomination by declaiming "You shall not press down upon the brow of labour this crown of thorns, you shall not crucify mankind upon a cross of gold." The Republican party, which had in 1890 produced the Sherman Silver Act, nominated William McKinley and demanded the gold standard. Bryan wanted free coinage of silver at 16 to 1, although the market ratio had by now slipped to 30 to 1; in other words, the cost of enough silver to make a silver dollar was 52 cents. Republicans claimed that to install bimetallism at 16 to 1 under the circumstances would create financial chaos and cause prices to skyrocket. Some silverites replied that American adoption of bimetallism at this ratio would of itself create such a demand for silver that the world market ratio would return to 16 to 1. In campaign speeches Bryan frequently pointed to the fact that wheat was selling in the west at 50 cents a bushel and argued that by adopting free coinage of silver the price of wheat might easily be raised to \$1. The argument made a strong appeal to the debtors and farmers of the West. But in the end Bryan was decisively defeated, although not without coercion such as warnings by some employers on pay day before the election that their men need not bother to return if Bryan won. Perhaps, too, the extraordinary rise in the price of wheat to almost \$1 by early November without the aid of silver but because of a crop failure in India dampened some of the inflationary ardor.

Prices tend upward.—The question of free coinage of silver did not again worry the American public until another generation had passed. The year 1896 was the low point in the downward sweep of prices after the Civil War. Wholesale prices rose a fifth by the next presidential election and a half by 1914. Numerous explanations have been ad-

vanced for the change, but the most generally accepted is the increased gold supply resulting from important discoveries of gold in Australia and Alaska and from the invention of the cyanide process of refining gold which made it profitable to work lower grade ores. Deprived of their chief grievance, the silver advocates were no longer able to maintain enthusiasm for their program and so finally abandoned it. The Gold Standard Act of 1900 legally and beyond any further doubt placed the country on a single gold standard and ordered the Secretary of the Treasury to set apart "a reserve fund of \$150,000,000 in gold coin and bullion, which shall be used for such redemption purposes only." Moreover, the Secretary was to hold back notes presented for redemption until gold was exchanged for them again, and was also authorized to negotiate loans to maintain the reserve fund. Thus a repetition of the "endless chain" experience was rendered unlikely.

In conclusion, it should be admitted that the farmers and debtors of the West did suffer unduly for a generation from falling prices and that their program of silver purchases may have moderated the downward trend of prices. Yet at the same time it should be emphasized that the advocates of free silver contained silver mine-owners and inflationists whose main interest was making it easier to pay their debts or to sell their crops at a better price, a modest enough desire to be sure, but they had no plan of controlling inflation and probably even less inclination to do so. While it is not within the province of an historian to prophesy what might have been, it does seem likely that the silverites, if given a free hand, would have repeated with modifications some of the disastrous experiments already witnessed in pioneer sections of the country when the scarcity of capital was keenly felt.

Business cycles.—Closely associated with capital accumulation and the money supply, especially since the industrial revolution, is the phenomenon known as the business cycle. Only in the last generation have economists devoted much attention to this subject and relatively little is still known about it. The business cycle should be distinguished from the occasional crises which have occurred for various reasons but without pattern from the dawn of history. The business

cycle consists of four recurring phases of (1) prosperity, (2) panic and liquidation, (3) depression, and (4) recovery, taking place in that order, although sometimes one phase and sometimes another is the more pronounced. There appears to be no established length of the cycle, the four phases sometimes lasting a few months and at other times a decade or more, although it would appear that three years is most common and that the worst panics occurred at about twenty year intervals during the nineteenth century. For example, serious economic collapses are associated with the years 1819, 1837, 1857, 1873, 1893, and 1907, with the Civil War intervening in mid-century to explain the time shift. Explanations of the business cycle are legion and the student should be as much on his guard against the economic diagnostician who advances one simple interpretation for all economic illnesses, as he would be against the doctor who has one explanation for the sicknesses of all his patients. Nonetheless, two broad and widely accepted interpretations of the business cycle merit some attention. Leonard Ayres of the Cleveland Trust Company believes that wars are the originating cause of many depressions and points to the fact that every major war has been followed shortly by a minor depression and about a decade later by a major one. For example, after the Civil War there was a minor depression in 1866 and a major one in the years after 1873. Critics reply that if one waits long enough two depressions can be found after any war and they inquire as to the causes of subsequent depressions. Professor Wesley Mitchell believes that the business cycle is self-generating: that is, each phase contains within itself the seeds of the next one. The excesses of prosperity bring about panic followed by liquidation and depression, and the opportunities to produce at extremely low cost offered by depression start a recovery which develops into prosperity. Critics say that this is more descriptive than explanatory and want to know the nature and cause of the excesses of prosperity and what resemblances they bear to one another. A summary of the chief circumstances leading up to six main depressions between the Civil War and World War I will not reveal the answer but may illustrate the difficulties of satisfactory generalization.

The *depression* of 1866-1867 was precipitated by the Contraction Law calling for the retirement of greenbacks. This affected the national banks, which had loaned greenbacks in large quantities after the war. Repeal of the law coincided with recovery.

The long *depression* of 1873-1878 grew out of extensive investments by Americans and foreigners in new transcontinental railroads and was precipitated by the failure of Jay Cooke and Son, bankers of the Northern Pacific road, who went down partly because of the diminished buying from France and England following the disastrous outcome of the Franco-Prussian War. For five years the annual crop of business failures increased each year. No doubt the wavering financial policy of the government, hesitating between inflation and resumption of specie payments, helped prolong the bad times. Decision at last to resume and a favorable crop situation in 1878 were followed by recovery.

The *depression* of 1883-1885, like the one before, grew out of over-building of railroads: three transcontinental roads were completed at enormous cost between 1881 and 1883. Extreme suffering in agricultural regions characterized this period: Kansas farmers burned their corn because it was cheaper than coal and could not be profitably shipped to market. Revival of railroad building accompanied, and probably helped to produce, recovery.

The *depression* of 1893-1895 was precipitated by the failure of the Reading Railway, which was but one of a number of roads that had been fraudulently managed for several years. The crisis was accentuated by widespread worry over the effects of the Sherman Silver Act of 1890 and fear that the gold standard would not be preserved. Successful handling of the "endless chain" problem eventually revived confidence and brought on recovery.

The *depression* of 1907-1908 occurred after several years of speculation in securities of many newly formed industrial combinations. Over-expanded loans by trust companies engaging in the banking business were also a factor. Investigations of the laxly regulated insurance business and the destructive San Francisco fire and earthquake in 1906, which dealt insurance companies a second blow, warned of disaster

to come. The failure of the Knickerbocker Trust Company in New York City precipitated the crash and banks suffered severely, so much so that the need for banking reform was widely recognized. The depression was short-lived and did not greatly affect the lives of the masses.

The *depression of 1913-1915*, following a mild prosperity in late 1912, was influenced in part by fears of the low Underwood tariff, but probably would have been a mild affair itself had not the outbreak of war in Europe caused widespread anxiety and closed the New York Stock Exchange for several months. As people became accustomed to the war and American business began to profit from European demand for our products, prices rose sharply and a war prosperity developed.

From the above it would seem that cycles are remembered because of the bad news they bring in the form of panics and depressions rather than the joys produced in prosperity, and that the depressions are usually preceded by speculative activity of some sort. Transportation systems have been a frequent but not the only object of speculation. The roots of economic collapse are numerous and no two depressions are exactly alike.

Recapitulation.—To the increased use of capital must be attributed in large part the improved standard of living enjoyed by Americans as the nineteenth century progressed. By capital is meant primarily tools and equipment. Capital can be had only through saving. Probably most of the saving was done by business firms which regularly plowed back part of their earnings to better their plants. Improved techniques, cheap transportation, and the rise of the corporation, whose outstanding feature was limited liability, made possible larger business units than were previously known. Rules concerning the granting of corporate charters were extremely strict in 1800, but by 1900 states were vying with one another to obtain the fees from granting charters. The competition hampered the control of monopolies and lowered the charter standards for the nation as a whole, since the custom of "interstate comity" led each state to treat a foreign corporation like its own. Corporation stocks were sold by brokerage houses at first, investment banks not becoming

important until after the Civil War. The New York Stock Exchange was not of great importance to the financial life of the country until after the middle of the century. Most of the stocks "listed" down until 1900 were railroad and not industrial.

Whereas long term capital is provided by investment banks, commercial banks are supposed to supply short term capital and did so to an increasing degree as the century advanced. The National Banking Act established a banking system superior to the heterogeneous mass of state banks in existence before. However, it too developed faults, chief of which were an inelastic note issue and decentralization of reserves, the latter being a positive menace in times of panic. A central banking system was obviously needed. The strict rules governing national banks stimulated the use of checks and this in turn was a factor in reviving the small state banks.

Issuance of greenbacks during the Civil War led to price inflation with attendant evils. After the war prices fell more or less gradually for a generation. Debtors, farmers, and some early labor unions, resisting its effects as well as desiring cheap capital, inaugurated first the Greenback Movement and then the Free Silver Movement. Although considerable quantities of silver were issued, other influences, like the industrial growth of the country, kept prices from rising or even becoming stabilized. After the failure of the Bryan "free silver" campaign of 1896 prices turned upward and the cheap money movement died out.

Recurrent fluctuations in business activity known as business cycles and consisting of four phases—prosperity, panic and liquidation, depression, and recovery—became apparent in the nineteenth century and were probably a product of the industrial revolution. They are remembered chiefly for the serious depressions they brought, six of which took place in the years 1866–1867, 1873–1878, 1883–1885, 1893–1895, 1907–1908, and 1913–1915.

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Part IV—World Power

1914-1942

CHAPTER XXVI

AGRICULTURE

Effect of the World War : Expansion.—The outbreak of World War I in 1914, by diverting the labor and capital of Europe from normal productive pursuits to war, created an immediate demand for raw materials, foodstuffs, and war munitions from the non-belligerent countries of the world. The United States was in much the same position that it had been in during the Napoleonic war in 1793 and the years following, in that it was the only neutral nation capable of supplying these needs. Its position differed only in that in 1914 it did not possess a merchant marine adequate to carry its expanding exports. The export of cereals, meats, horses, mules, and other agricultural products increased enormously, and at the same time prices rose so that farmers' profits were very large. The only important exception was cotton, in the case of which the cessation of the German demand caused a fall in prices and an accumulation of stocks. The entry of the United States into the war in 1917 stimulated demand still further, while the ensuing inflation raised prices to yet higher levels. Under the impulse of these forces much marginal land hitherto unimproved or in pasture was brought under cultivation, machinery was used on a larger scale, and the output was greatly enlarged.

The census statistics do not show the many phases of this movement, but they do present the broad outlines and may therefore be given at this point.

The facts of immediate interest that are revealed by these figures are the increase between 1910 and 1920 of land in farms by 77,000,000 acres, included in 87,000 new farms, and also a growth in size of the average farm (see table opposite). This was a larger decennial increase than had

occurred since the end of the great expansion in 1890, and was much more rapid than the rate of growth of the population. As a result of this growth agricultural foodstuffs and raw materials were being produced in excess of domestic requirements; and yet the great exports were made possible only by self-denial on the part of American consumers in the form of meatless and wheatless days and more economical use of such things as sugar, tobacco, chocolate, and other articles which were needed for the soldiers.

	1910	1920	1930	1940
Number of farms (1000).....	6,362	6,448	6,289	6,097
Land in farms (1000 acres)...	878,798	955,884	986,771	1,060,507
Per cent of land in farms.....	46.2	50.2	51.8	55.6
Average acreage per farm.....	138.1	148.2	156.9	173.9
Per cent of population that was rural.....	54.3	48.8	43.8	43.5

Even after the Armistice, on November 11, 1918, the European demand for American foodstuffs and raw materials continued, that for cotton now being revived. Between 1914 and 1920 the exports of meat rose from \$143,000,000 to \$353,000,000, those of wheat from \$88,000,000 to \$298,000,000 and those of cotton from \$537,000,000 to \$768,000,000. These supplies were necessary to start the mills and factories and to feed the war-stricken peoples until they could resume their normal peace-time activities. They were sold, moreover, at record prices, partly because of scarcity and more largely because of inflation, and brought in greatly increased incomes to farmers and planters. The situation was very much like that which prevailed in England during the period of high prices before the end of the Napoleonic wars. Under the impetus of all these forces the American farmer, assuming that the foreign demand at high prices was permanent, still further expanded his operations and speculated wildly in farm land. In Illinois and Iowa land sold for \$500 an acre and more. Much of the capital invested in land and farm machinery was borrowed and as a result 150,000 farmers placed mortgages on their farms between 1910 and 1920.

Agricultural depression.—By 1920 conditions in Europe were more normal and the necessity imports from the United States fell off. With this decline the inflated prices of agricultural products fell precipitately to the pre-war level. Between December, 1919, and December, 1920, wheat dropped from \$2.15 a bushel to \$1.44, corn from \$1.25 to \$.68, and cotton from 36 cents a pound to 14 cents. The farmers who had purchased land at high prices and even those owners who had held their land suffered greatly, for prices of other products did not decrease as rapidly, and they were at a disadvantage both as debtors and as consumers. Production in the United States was not easily curtailed, however, and the American farmers were faced again with the problem of relative over-production and low prices which had created such profound discontent fifty years previously. There was once more a lack of balance between supply and demand at the current cost of production. Production had been greatly stimulated by an abnormal foreign demand, by high prices, by government encouragement,¹ by farm mechanization, and by improvements in agriculture itself.

Demand, on the other hand, was lessened by several changes. In the first place, as was just pointed out, foreign demand fell off greatly. But so did domestic demand. The great decrease in the number of horses and mules as a result of the use of tractor-drawn farm machinery caused a decline in the consumption of feed crops. It has been estimated that the elimination of 8,000,000 horses and mules released approximately 25,000,000 acres from producing feed and added that much to land available for other crops. These other crops were not needed, however, for human consumption of certain foods fell off at the same time. Owing to more sedentary occupations, warmer buildings, and the spread of much advice as to dietetics, the consumption of cereals, meat, animal fats, and other staple articles declined, their place being taken by vitamin-rich vegetables, fruits, and dairy products, which need for their production much

¹ In 1917 the government practically guaranteed the farmers \$2.20 a bushel for wheat, and \$2.00 in 1918. In addition, some two million war gardens were planted, over a million acres in city lots being put under cultivation.

less land than meat requires. This situation was rendered even worse by ill-advised reclamation projects which brought into use additional land, without regard to established agriculture. The resulting disequilibrium might have been remedied by reduced production, but this was practically impossible under the individualistic system of American farming. A decade of suffering and experimentation was necessary before this last drastic remedy was resorted to in 1933.

The depression of 1920-1921 affected primarily the farmers, for industry and commerce recovered quickly, and between 1922 and 1929 the country experienced a boom. With the growth of prosperity the increased purchasing power of the people swelled the demand for manufactures and for services rather than for agricultural products, which are relatively non-elastic. Hence the farmers' sales failed to keep pace with those of other lines. It is a well-known economic law that as income increases, relatively less is spent on the primary wants. Thus food and clothing (both ultimately agricultural products) fell from 59 per cent of total production in 1914, to 44 per cent in 1929. It was difficult if not impossible for agriculture to adjust itself to such rapidly changing conditions.

Search for new uses.—But if production could not be reduced, and the old channels of demand were closed, perhaps consumption could be increased, and new uses found for agricultural products. Accordingly, new markets, closer home, now began to be sought through new uses for agricultural products and through the utilization of agricultural by-products. This is a movement which had been carried far in the slaughtering and meat-packing industry, but the development of chemistry in the United States since World War I opened up new possibilities to agriculture in other fields.

Corn is already the raw material for several flourishing industries such as starch, alcohol, and others, but the manufacture of glucose or corn sugar from corn, of wallboard and paper from cornstalks, and of furfural from corn cobs has just begun. Furfural is used in the manufacture of dyes, resins, medicines, lacquers, etc. Cereal grains furnish starch for sizing and finishing textiles and paper, dextrine adhesive,

glucose used in the rayon and leather industries, and a whole series of industrial chemicals and solvents. Although 90 per cent of the soybean crop is used for human or animal consumption, an increasing proportion is utilized for adhesives, plastics, paint and varnish. From animal carcasses the processing industries obtain leather, glue and gelatin, soap, greases, glycerin, and fertilizers. Many valuable products are now being made from skim milk which was formerly fed to hogs or thrown away. Thus casein is extracted and used in the preparation of wallpaper, paints, and glue; under the name of karolith it is used in the manufacture of combs, brushes, buttons, etc. About 40 per cent of the cotton consumed in the United States finds industrial outlets, such as cordage, auto tires, explosives, bags, paper, packing and stuffing, and artificial leather. The cottonseed industry has shown a remarkable growth since about 1900, as has also the utilization of the stalks and roots of the cotton plant, all of which were previously regarded as waste products to be disposed of at considerable expense. Cottonseed oil, obtained from the seeds, is used in making salad oils, oleomargarine, lard, and soap; the meal is used as a fertilizer or fed to the stock; and the hulls and stalks are used for the same purpose or in the manufacture of paper.

In spite of the impressive list of achievements in the industrial use of agricultural products, the outlook for a solution of the farmers' ills along this line is none too favorable. Some markets are expanding, but others are shrinking. On the whole, non-farm products are preferred as raw materials because of variations in the quality of farm products and of their fluctuating prices.

The disparity between demand and supply at cost prices might have been met by lessening agricultural production, but this was thwarted by technological advance. Better seed selection, the introduction of more productive varieties and of disease-resistant strains, of improvements in plant and animal breeding, together with better systems of fertilization, spraying, etc., made possible increased yields. Even more important was the impact of technology.

Mechanization of agriculture.—The improvement of agricultural machinery has passed through three stages in

the United States. In the first period, between about 1830 and 1860, great changes were made in the character and efficiency of farm implements, but the motive power was still pretty much human muscles. The second wave of mechanical advance was the general adoption of horse-drawn machines between 1860 and 1914. The third stage is the mechanization of the farm by the use of power machinery; it is the application of engineering to agriculture. This involves a change in the point of view and in farm organization and management, as well as the stepping up of the farmers' productive efficiency.

Steam traction engines were employed to draw agricultural machinery at the beginning of the twentieth century, but they were not very successful, and by reason of their weight tended to pack the soil. The gas tractor came into use about 1905, but for a number of years spread slowly. As first developed the gasoline tractor was a large heavy-duty machine, but this was not very successful and was followed by the development of the caterpillar type, and finally by the light general-purpose tractor. A long step forward was made by Henry Ford in 1917 when he introduced the Fordson tractor, which met admirably the requirements of power farming; by 1921 about 70 per cent of the tractors produced were Fordsons. In 1939 there were 1,600,000 tractors on American farms.

The gasoline tractor has effected a revolution in agriculture comparable with that made by the steel plow and the reaper a hundred years earlier. It has made possible the use of more and bigger machines in preparing the land, and in cultivating and harvesting the crops. By its adaptability, economy, and effectiveness it has already forced changes in farm organization and management, which go farther than merely the substitution of machines for horses. Next to the tractor the most important machine is the combine or harvester-thresher. This is tractor-drawn to the field; there, in a single operation, the grain or other crop is cut, carried by means of a conveyor, threshed, and elevated to a bin on top of the machine. Today half the wheat acreage is harvested by combines, compared with 5 per cent in 1920. Other tractor-drawn machines are corn-planters, pickers,

plows, the rotary hoe, and many other specialized types of machines.

Economic results of farm mechanization.—The consequences of this farm mechanization are numerous. It permits a more perfect execution of many operations. Thus, "Efficient tillage machinery accomplishes more effective cultivation, resulting in a larger product per acre. Shredders and silage cutters have made possible more efficient utilization of feeds. Mechanical sprayers and dusters are more effective than hand implements in applying safeguards against insect and disease devastation. Pasteurizers and fruit sorters make possible products of higher quality."²

The use of power machinery has eliminated millions of horses and mules, which formerly furnished the power. In 1920 the number of horses and mules on the farms of this country was 25,000,000; this was practically the maximum. By 1941 there were 14,600,000. There is a saving in the land and labor formerly required to grow forage for these animals, which ate whether they were at work or not.

Farm mechanization has greatly increased the productivity of agricultural labor. It has cut production costs from one-third to two-thirds of the horse-farming costs, and has trebled the acreage which can be cultivated per man. Unit costs of production have been greatly reduced, largely as a result of the lessened labor requirements. On the great plains of the United States a unit of land and a unit of machinery, consisting of tractor, combine harvester-thresher, tractor drill, tractor tillage implements, and truck, produce wheat at new low levels of cost. "In Nebraska it cost 38¢ per bushel to produce wheat in Perkins County in the western part of the state with improved machinery as compared with 86¢ per bushel as an average for four eastern counties under the older methods. . . In Montana the combine reduced production costs by about 15 or 20 cents per bushel."³

There is the same variation in per-acre costs between hand tools and mechanical equipment in raising cotton, as reported by the Mississippi Experiment Station:

² *Encyclopedia of the Social Sciences*, s.v. Agricultural machinery, I, 552.

³ E. G. Nourse, in *Recent Economic Changes*, II, 568, 563, 566.

1-mule $\frac{1}{2}$ -row equipment	\$14.20
2-mule 1-row equipment	10.78
Tractor 2-row equipment	6.78
Tractor 4-row equipment	5.20

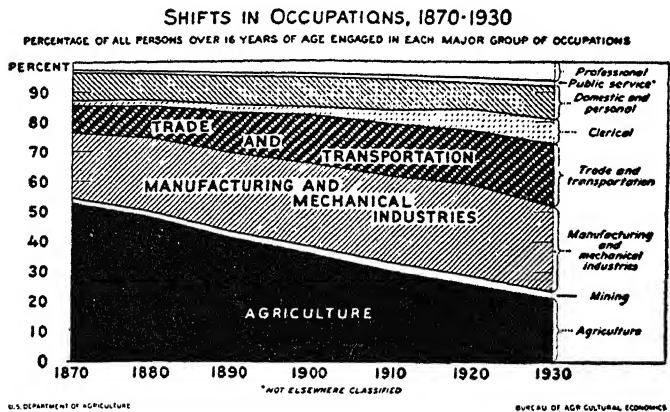
The mechanization of the farm has had notable effects on the organization of agriculture itself. There has been a geographic shift toward lands of relatively level topography and low rainfall, such as the western part of the United States. But the same movement has brought the cheap lands of Canada, Australia, and the Argentine into competition with our farms. This shift has affected disadvantageously the more humid and more rugged lands in other sections of our country, and some of this is either going out of cultivation or is finding new uses.

The size of the profitable farm has been greatly enlarged. The census statistics report an increase in the average farm from 138 acres in 1910 to 174 acres in 1940, but these include the small cotton patches of the South. In the grain belt of the west north central states, where the new machinery is principally used, the average size was 239 acres in 1930. Competent observers are advocating a 640 acre farm in the corn belt as a family farm, and for maximum efficiency the farmer should operate 1000 or even 2500 acres. To obtain the greatest economies a combine outfit must be worked to nearly its maximum capacity, which would require about 1000 acres for a medium-sized machine. This puts a premium on large scale farming.

Social consequences of mechanization.—Several momentous social consequences followed from this mechanization. In the first place, since not so much man-power was needed on the farms, a great deal of labor was set free for other pursuits, and this sought employment in the developing manufactures. There was therefore a steady movement of population from the country to the city, resulting in a redistribution of the population and a readjustment of social organization and of living conditions. The proportion of the population living in towns of 8000 inhabitants or over grew from 7 per cent in 1830 to over 56 per cent in 1930. Some persons have viewed this movement with alarm and have cited several causes to explain it, such as

the abandonment of farms, the smaller size of rural families, and the barrenness of rural social life.

The real explanation must be found in the greater productiveness of farm machinery and the setting free of labor formerly needed to raise our food supplies. In 1787, according to the National Resources Committee, the labor of 95 per cent of the population was required to raise the food and agricultural raw materials for the nation; today about one-fourth is needed. The labor thus set free naturally gravitates to the cities where it is applied in industrial and commercial occupations to the production of other commodities. It is estimated that machine-farming improvements released over 30,000,000 workers from agriculture between 1850 and 1940. This must be regarded as a real economic gain, from a national standpoint. The shifts in occupations that have resulted are shown in the accompanying chart.



The decrease in the proportion of the population engaged in agriculture, made possible by the advances in technique, particularly the increase in power used per worker, resulted in a great cityward migration of young people from the farms, which was notably heavy from 1870 until 1930. Until about 1920 these rural youth as well as urban youth found increasing employment in manufacturing, mining, trade, and transportation, clerical work, and the various personal and professional services. But soon after 1920 a decline started also in the proportion of the population engaged in mining and in manufacturing and mechanical pursuits. As a consequence, trade and clerical work and the various services absorbed many of the young people no longer needed in the basic productive industries. Between 1880 and 1930 the proportion of the population engaged in trade doubled, while the proportion engaged in clerical work doubled between 1910 and 1930. The graph is adapted from a diagram by R. G. Hurlin and M. B. Givens (ch. VI), on page 284 of *Recent Social Trends in the United States*, New York, 1933.

Some of the changes have, however, resulted in hardships. Mechanization enabled a single man to operate a larger area, and there was therefore a tendency for the successful farmers to buy out their less efficient neighbors and increase the size of their farms. The dispossessed operators usually resorted to cheaper and therefore poorer land, from which the former owners or tenants were in turn displaced. A vast migration was thus set in motion, with attendant loss and human suffering. The last, and least capable, in this succession of migratory farm operators were unable to obtain land on any terms and became wandering agricultural laborers—the “Okies” of novel and film.

Thus far there has been traced the effect of farm mechanization on agricultural production. But the usefulness of the gasoline engine is not limited to the work of plowing, cultivating, threshing, and drawing loads.

“It has been set to work turning the milk separator, the churn, the silage cutter, the washing machine, the sausage grinder and stuffer, the feed and fanning mills, and the grind-stone. It pumps water for the stock, for the house water tank, and for irrigation ; it saws wood, shells corn, digs post holes and drills the well. It mows the lawn, and runs the milking machine, the vacuum cleaner, and the lathe in the work-shop. By its power the barn and orchard are sprayed with disinfectant, and the sheep are sheared. Granaries and silos may be built to any desired height and filled by means of elevators run by gasoline. Is there any limit to which this engine may not go in relieving the farmer, his wife, and their helpers from wearying muscular effort and drudgery?”⁴

(Depression of 1930 and after.—The movement toward mechanization and large scale farming ran into difficulties during the depression which began in 1930. The cumulative effects of power machinery and improved methods resulted in keeping up agricultural surpluses, in spite of exhortations to the farmers to curtail production. But this was something which the individual farmer could not do ; to be effective it must be of national scope. On the side of demand the conditions grew progressively worse, especially

⁴ A. H. Sanford, *Story of Agriculture in the United States* (Boston, 1916), 259.

as regarded foreign trade. The exports of some of the leading agricultural products are shown in the following table :

AVERAGE ANNUAL EXPORTS OF AGRICULTURAL PRODUCTS (In millions of dollars)						
Products	1910-1914	1915-1919	1921-1925	1926-1930	1932	1940
Meats.....	67.3	360.2	139.8	78.0	18.9	21.7
Animal fats and oils...	76.7	133.5	138.5	109.2	37.9	13.1
Bread grains.	147.3	460.4	474.3	318.6	51.7	76.4
Fruits.....	28.0	41.8	81.4	119.3	77.3	34.4
Tobacco.....	44.8	83.4	164.6	144.5	65.9	44.0
Cotton.....	551.9	669.8	805.0	765.7	345.1	213.4

Stat. Abstract of the U. S., 1930, pp. 510-20; 1931, pp. 528-38; 1936, pp. 466-77; 1941, pp. 557-67.

It is evident from this table that, while there had been a great decline in agricultural exports in the period 1926-1930 as compared with the previous half decade, by 1932 there was a complete breakdown, the exports falling even below the pre-war level ; by 1940 the situation was still worse.

Domestic demand is difficult to determine accurately, but a few items may be mentioned. The domestic consumption of raw cotton by mills fell from 7,091,000 bales in 1929 to 4,866,000 in 1932 ; that of tobacco from 796,626,000 pounds to 674,896,000 for the same dates ; that of federally inspected meat from 11,184 million pounds to 10,659 million. The explanation of this decline is to be found in the general depression which had overtaken the country and which now affected city wage-earners even more disastrously than the rural population and greatly curtailed general purchasing power. Indeed, after 1930 no distinction can be made between rural and urban distress, for all areas were affected.

As factories began to close and unemployment to increase there began a reverse movement of the population from the city to the country. Professor Hibbard estimated that between 1930 and 1934 probably 3,000,000 people "have gone back, not exactly to the land, but to the beds and boards of their relatives and friends."⁵ The migration from the farm

⁵ B. H. Hibbard, "A Long Range View of National Agricultural Policy," in *Journal of Farm Economics* (Jan., 1934), XVI, 15.

to the city was, however, resumed after 1934, at the rate of about 300,000 annually.

Tenancy.—The tendency toward an increase of tenancy, which has already been noted, continued unabated in the two and one-half decades 1910–35, the proportion of farms operated by tenants rising from 37 per cent of all farms in 1910 to 42 in 1935. During World War I there was a slackening in the rate of increase in tenant farming, owing on the one hand to high prices obtained for farm products and the consequent profits accruing from operation by the owner, and on the other hand to the withdrawal of labor from agriculture into industry and into the army. The next decade, however, saw a strong movement in this direction. It is difficult to generalize for the United States as a whole, for conditions differ so in different sections. The greatest increase occurred in the South and in the West North Central division. Many factors contributed to this situation, of which a few may be mentioned.

The rise in the price of land, the larger sized unit that could profitably be operated by one family, and the cost of the equipment in those parts of the country where agricultural machinery was largely used—notably in the Northwest—all required a larger capital investment on the part of the owner. Thus the average value of a farm in the United States rose from \$2896 in 1900 to \$7614 in 1930, almost trebling. This made it more difficult for a young man to climb the agricultural ladder and become an owner. Moreover, it was not at all certain that it would be profitable for a young man to buy a farm and borrow the money by placing a mortgage on it. The low rents as compared with the high rates of interest seemed to make it advisable for such a person to invest his capital in stock and equipment and become a tenant rather than to sink his capital in the land. One of the motivating forces that have led farmers in the United States to invest in land was the likelihood that it would increase in value. Under present conditions the future course of farm land prices is very uncertain and this factor no longer has much weight. Many tenants moved “up the ladder” by expanding their operations on rented land, while remaining tenants. Finally, there seems to have

been a change in attitude on the part of the farmers themselves. Instead of saving to buy land, they now prefer to raise their standards of living and to spend their incomes on immediate consumption goods, such as automobiles, radios, washing machines, and forms of entertainment.

Tenancy is found in greatest degree in the rich agricultural districts where the price of land is highest and where consequently it is difficult for a young man to purchase land of his own. It is found also to have resulted in those sections where specialization in cereal or cotton production has proceeded furthest: that is, where a standardized routine agriculture is practiced; on the other hand, where diversified farming is carried on, ownership is more general. Owners tend to be more progressive while tenants follow the beaten track. Whether tenancy is to persist as a permanent phenomenon will probably depend upon the character of agriculture which the future may develop in the United States.

Regional specialization.—It seems scarcely necessary to trace again in detail the regional specialization of agriculture, as the World War I introduced few important changes and the subsequent years simply confirmed tendencies already in operation. If a line be drawn from about Washington, D. C., to the southeast corner of South Dakota, it will be found that most of the area to the northeast of this line is devoting itself to the production of rather perishable commodities, which cannot stand distant transport; such are milk, fresh vegetables, potatoes, and fruit, serving the great urban industrial population of this region. Directly southwest of this line is the corn and meat belt, which produces primarily for the domestic market but which disposes of about 15 per cent of its pork products on the foreign market. Northwest of this area is the wheat belt, which is still more dependent on the export market, and still farther west is the cattle-raising country. South of all these areas lies the cotton belt, about half of whose products are exported. The failure of the foreign market in recent years is the most important reason for the centering of agricultural discontent in these regions.

The East presents a picture of the most settled agricul-

ture, though even here changes are still going on. This section has concentrated largely on bulky and perishable articles. Here the rise of great markets for whole milk in our large cities makes it necessary to furnish a regular and wholesome supply; trains carrying only milk are now run at express speed to all the principal cities, often from great distances, and methods of sterilizing, bottling, and refrigerating milk have been developed.

The Middle West is the great center for the production of cereals and meats. Corn is the most important crop, but most of it is fed to beef and cattle. The livestock industry is being transferred in part to the states east of the Mississippi. Here they are raised in small herds, and considerable attention is given to breeding. With the development of stall feeding, the concentrated foods such as corn have come to be of great importance, and they are fed to the cattle where they are grown. It is not improbable, however, that the near future will see a development of the livestock industry in the East and South as a result of growing root crops, alfalfa and other special forage crops, and of breeding varieties of corn, clover, and other crops especially adapted to those sections.

The dominance of cotton in the agriculture of the South has been a striking feature for a century, but this was profoundly affected by the depredations of the boll weevil, and has undergone a veritable revolution in the past fifty years. The beetle migrated from Mexico into Texas in 1892, and since that time has spread over practically the entire cotton-growing area of the United States. The destructiveness of the boll weevil and the cost and difficulty of combating it forced the southern farmer in the infested regions to give up or reduce the planting of cotton and to diversify his crops. This was so beneficial that the effects of the boll weevil cannot be said to have been altogether bad; indeed, the town of Enterprise, Alabama, erected a monument to the boll weevil because it has compelled the abandonment of the one-crop system. Production of food for home consumption has greatly increased, and the "cow, hog, and hen" program, urged by the state experiment stations, is being more gen-

erally adopted. Cotton has moved steadily westward until today Texas and Oklahoma produce nearly two-fifths of the entire crop.

A definite limit is now placed upon the production of cotton by the necessity of picking it by hand ; in other words, a man can plant and cultivate more cotton than he can pick. If the cotton-picking machine could be perfected so as to supplant hand labor in this operation it would effect a revolution in southern agriculture nearly as momentous as that which followed the introduction of the cotton gin, or of harvesting machinery in the North. The effect upon the labor now used in the cotton fields would be no less striking. On the dry lands of western Texas, where the cotton plants do not grow large nor bear many bolls, the practice of "sledding" or cutting down by a harvesting machine the whole plants instead of picking off the bolls has been found profitable.

The Pacific division differs from the rest of the country in the dominance of fruits and fresh vegetables. These find a steady market in other sections of the United States in spite of the cost of long-distance transportation.

Because of the specialization in products among the different regions, agriculture has necessarily been commercial rather than self-contained, and has been based upon interdependence and exchange. When this process of interchange is interrupted, as it has been by the depression of 1930 and subsequent years, then all branches suffer. The difficulties under which the farmer was laboring were greatly enhanced by this event, and in an attempt to help him solve some of his problems Congress turned first to his financial troubles.

Farm relief : easy credit.—The earliest steps taken by the federal government in granting relief to the farmer were those providing for easier credit. Agriculture had become a capitalistic enterprise and called for a larger investment than the average farmer could command ; he was therefore forced to borrow the necessary capital and to rely increasingly on banks and other lenders. The farmer borrowed money for various purposes. Because of the slow turnover of agricultural products, varying from about six months in the case

of crops to perhaps three years in the case of cattle, he frequently needed to borrow on short time to finance his operations until he could sell his products. The national banks were forbidden to loan on real estate, so he obtained accommodation from state banks, local merchants, or private lenders. To buy farm machinery and equip his farm he often found it necessary to borrow for somewhat longer terms, and for this purpose he obtained funds from the sources just named or from agents of farm machinery companies. For long term loans, to pay for his land, he turned to mortgage companies or eastern investors. But the farmer complained that he was ill served by all these agencies. The cost of the short term credit was unduly high, amounting to 15 or 20 per cent, and for the longer period the average mortgage, running for only five years and loaded with heavy charges, was equally unsatisfactory.

It was evident that the banking and credit system of the country had conspicuously failed to meet the financial needs of agriculture. Some efforts were made to liberalize bank credit after the establishment of the Federal Reserve System, but these were inadequate, and the farmers' demand for assistance became insistent after the agricultural depression of 1921 and even more so after 1929. The difficult financial situation of many farmers called for remedial measures, which the new administration was prompt to give. The government proceeded to grant greatly increased agricultural credit, and at the same time to provide an effective comprehensive system.

The various banks and credit institutions, which had been created under earlier legislations, were now brought together under the Farm Credit Administration, which was created for the purpose of providing agriculture with a complete and co-ordinated system of credit. It made available to farmers long term mortgage loans and short term credit and also provided intermediate credit facilities for farmers' co-operative purchasing, marketing, and business service organizations. During the seven years ending in June, 1940, it made loans amounting to \$6300 million of which \$3100 million were still outstanding at the latter date. Although the government was now furnishing farmers with the cheapest and

most convenient credit they had ever enjoyed, this was not enough and agrarian pressure forced the steady lowering of interest rates until in 1935 they were fixed at 3.5 per cent. This rate was to continue to 1942. Credit was now being furnished the farmers at less than cost, and by 1940 interest subsidies amounted to nearly \$170,000,000.

Mortgage troubles.—The period of falling prices for agricultural products which followed the collapse of 1920, and especially the period of deflation after the panic of 1929, made heavier the burden of indebtedness resting upon the farmers. Since they received less for their produce, they were compelled to give more wheat or cotton or other things to meet a fixed sum in interest or principal.⁶ Moreover, the number of farms mortgaged and the amount of debt both increased between 1910 and 1930. Although the number of owned farms fell off between these two dates by 380,000, the number of mortgaged farms grew by 186,000, the proportion increasing from 33 to 42 per cent. It was estimated in 1933 that the total farm mortgage debt was then about \$8000 million. Nor was this situation helped by the easy credit policy adopted in 1916, for by this the farmers were encouraged to borrow more. The pressure of these debts, the failure of the various relief plans to achieve satisfactory results, and the growing number of foreclosures of mortgaged farm property all brought the farmers to a rebellious frame of mind.

A striking manifestation of this discontent was the nullifying of foreclosure sales by groups of farmers in many parts of the Middle West by intimidating serious buyers at a sheriff's sale, bidding in the property for one cent, and then turning it back free of encumbrance to the debtor. Another example was furnished by the "farmers' holiday" movement, which placed an embargo on the sale of agricultural products at the prevailing low prices and sought to enforce it by dumping the contents of milk trucks into the ditches and preventing the shipment of produce into the cities.

Such a situation called for action, and in 1933 the Farm Credit Administration was created, which during the next

⁶ See charts on p. 844.

year advanced over a billion dollars in loans, largely to halt foreclosures. Another measure, the Farm Mortgage Foreclosure Act, was designed to facilitate the repurchase of foreclosed farm property, the provisions of which were made still more favorable to debtor farmers by the Frazier-Lemke Mortgage Moratorium Act of 1934 for farm bankrupts. The purpose of this measure was to grant extension of time to distressed farmers for payment of their existing debts and mortgages and to permit them to retain possession of their property, under the control of the courts, during the period of readjustment. Although this was declared unconstitutional by the Supreme Court in 1935, it was quickly replaced by another act of similar intent, but which avoided the Court's strictures. Under these circumstances there was little inducement for private lenders to operate in this field. By 1941 over 40 per cent of all farm mortgages were held by government agencies, and it was predicted that ultimately the government would be the sole lender.

Price stabilization.—The cheaper credit provided by these acts proved not to be the remedy needed to lift the farmer out of his depression. Indeed, by making it easier to borrow at a time when prices were falling, they tended to increase the load of mortgage and other indebtedness. What the farmers really wished was higher prices for their products. Two different plans were proposed to achieve this result, the first of which was contained in the McNary-Haugen bill, and the second in the Farm Board Act of 1929, but both based on the principle of stabilizing prices at a high level by more effective marketing.

The McNary-Haugen plan provided for the organization of a gigantic corporation, to be backed financially by the federal government, which should purchase the leading agricultural products of the farmers at prices profitable to them and dump abroad the surplus at the best prices possible, distributing the loss from such transactions among those farmers benefited, by means of an equalization fee. This plan was incorporated in the McNary-Haugen bill, which was twice passed by Congress, in 1927 and 1929, but was vetoed each time, once by President Coolidge and the second time by President Hoover.

Failing to provide the desired relief by this method Congress by the Agricultural Marketing Act of 1929 established a Federal Farm Board to stabilize prices. A revolving fund of \$500,000,000 was allotted it, half from the federal treasury. The Board was given power to buy and store surpluses and to set up stabilization corporations. In pursuance of this purpose it created marketing agencies and entered into contracts with existing associations that dealt in agricultural products. In an effort to check falling prices a Grain Stabilization Corporation was organized which in three years acquired over 900,000,000 bushels of wheat. A Cotton Stabilization Corporation bought 1,300,000 bales of cotton in the same futile effort. In spite of the accumulation of these huge surpluses, the Board was unable to exercise any effective control over prices, which continued to slump to lower levels. Finally, in 1933, the reserves of wheat were handed over to the Red Cross and other relief agencies for distribution among the needy and the affairs of the Farm Board were wound up. The experiment had cost the government \$360,000,000.

Reducing the surplus.—Neither of the two methods of relief by easy credit or by price stabilization having improved the condition of the farmers, a third method was put into operation in 1933, as part of the so-called "New Deal" program. The theory underlying this legislation was that overproduction was the real cause of the agricultural depression and that farmers might be persuaded to curtail their production if it were made profitable for them to do so. Accordingly, the Emergency Farm Relief Act of May 12, 1933, put into effect a domestic allotment plan of control for seven "basic" agricultural commodities, namely, wheat, cotton, corn, hogs, milk, tobacco, and rice, to which other commodities were added later. To administer the act the Agricultural Adjustment Administration was set up. Those farmers who agreed to cut their acreage according to a scale set up by the Department of Agriculture were paid sums proportionate to the estimated returns from the crops or animals not grown. By July, 1934, the wheat acreage had been cut 7,500,000 acres, and benefit payments of almost \$100,000,000 had been made to wheat growers. The funds thus distributed were

obtained by a processing tax on millers, packing houses, and other manufacturers who converted these products into food. The processors were expected to pass the taxes on to the consumers, thereby raising the prices of these commodities. The object lesson of plowing under every third row of cotton, and the purchase and threatened destruction of over 5,000,000 pigs, raised strong doubts in the minds of many citizens as to whether artificial scarcity was the proper solution of the farmers' difficulties, especially in a period of general depression and distress. The pressure of public opinion finally forced the distribution of the pigs to public relief agencies instead of destroying them.

Whatever may be said for such an allotment system, by which crops were apportioned among the states on the basis of their production for the past ten years, as an emergency measure, it was open to serious objection as a permanent policy. One of the characteristic features of American agriculture has been its readiness to move to new areas where conditions are most favorable for production. But this scheme froze production to existing areas. In the process of reducing acreage the sub-marginal or poor lands were not the ones to be forced out of use, but a given percentage of each area including good and poor land. Even more fundamentally faulty, from a long run viewpoint, was the policy of inducing scarcity as a means of promoting prosperity.

In 1936 the Agricultural Adjustment Act was declared unconstitutional by the Supreme Court, but Congress quickly responded with the Soil Conservation and Domestic Allotment Act, under which crop regulation could be continued. The emphasis was now placed on the improvement of soil fertility and protection against erosion. The payment of farm benefits was continued, but was conditioned on the diversion of farming operations from the production of soil-depleting to soil-conserving crops and on the use of methods designed to conserve soil resources. A new feature was the expressed determination to "reestablish the ratio between the purchasing power of the net income per person on farms and that of persons not on farms that prevailed during the five-year period August 1909-July 1914." This came to be known as "purchasing power parity."

This law failed, however, to provide effective means of crop curtailment, and farm surpluses in the important crops continued to depress prices. The system of reducing the acreage planted did not work because farmers were able by improved seed selection and shrewd use of fertilizers to increase production even on their smaller allotments. It was accordingly replaced in 1938 by a new and comprehensive Agricultural Adjustment Act, which combined most of the provisions of previous legislation with much that is new. This was hailed by Secretary of Agriculture Wallace as a "complete charter of farm equality." Government regulation was now applied to the production of basic crops, not the acreage. The Secretary of Agriculture was authorized to fix the acreage; if unexpectedly large crops should materialize he was to restrict sales by marketing quotas, but if the crops were below normal he was to make "parity payments" to the growers. Provision was also made for loans to farmers in good years on their crop surpluses, which were to be kept off the market by being stored. It was expected that in bad years, when prices were higher, the stored-up surpluses would be released for sale. This was the "ever-normal granary" plan of Secretary Wallace.

Owing partly to the perversity of nature and partly to that of the farmers themselves, there were bumper crops in the next three years, and low prices continued. Exuberant production in other countries and restrictions on international trade prevented disposal of the surpluses in foreign markets, so they piled up at home. Some relief in the disposal of the surpluses was found in their diversion to relief agencies, and in 1939 the food-stamp plan was introduced, according to which the surpluses—or the products made from them—were sold to persons on relief at reduced prices through regular marketing channels. Loans were made to growers on stored wheat, corn, cotton, tobacco, etc., sometimes amounting to more than the market price, and the government held enormous quantities of these commodities, paying meantime heavy storage charges. In addition, millions of dollars flowed to the farmers from the federal treasury in parity payments. Agricultural adjustment, originally justified as a relief measure in a time of crisis, had degenerated into gov-

ernment largesses to a maximum number of farmers in response to the political pressure of agricultural interests. These had moved a long way from the Populist demand of "special privilege to none."

A change in agricultural policy was made in 1941. Secretary Wallace's ever-normal granary was replaced by Secretary Wickard's ever-normal food supply. Henceforth the emphasis was to be shifted from the five basic crops which had been protected and placed upon vitamin-rich food, such as meat, fats, dairy products, poultry and eggs, fruit and vegetables. The food needs of Britain and other European countries and our own domestic requirements, as well as the failure of previous schemes, seem to have dictated this change in policy. Farmers were advised to make the necessary shifts in their crop programs, and government control was extended to ensure compliance. Under pressure of patriotism and profits the farmers responded promptly to this appeal, especially in such crops as soybeans, peanuts, pigs, and other products.

The agricultural program.—There was much to be said for the early emergency measures which were designed to assist the farmers in a national crisis and to facilitate their recovery. By 1936 the improvement in the economic position of agriculture had ended this phase, and thereafter emphasis came to be placed increasingly on measures which tended to put farmers in a privileged class. Better access to adequate credit facilities, improved marketing organizations, and stabilization of prices were in themselves justifiable, but when pushed to extremes they proved economically unsound and are open to serious criticism. Not only has the outlay of the federal government for farm relief been enormous—about \$7500 million for the eight years ending June 30, 1941—but the attempt to maintain prices on an artificially high level has prevented a healthy readjustment of agriculture and of land utilization. Parity prices and parity income are attainable only with the aid of government subsidies and high prices to consumers. But the parity setup in the Soil Conservation and Domestic Allotment Act of 1936 no longer satisfies the political pressure groups and higher demands are continually being made. Long run national planning and

scientific allocation in the use of economic resources have been sacrificed to short term considerations of higher prices. The prospect of a balanced economy is more remote than ever. At the same time the independent self-reliant American farmer has been taught to rely upon the government for the solution of his economic difficulties.

Conclusion.— The objective of American agriculture has, during most of our history, been simply to bring more land under cultivation and to produce more. The public domain was got rid of as rapidly as possible, and most of the arable land was put into the hands of farmers, together with much that was suitable only for forestry or grazing and some that was not good even for such use. It seems clear today that this process went on too rapidly, with disastrous consequences to the farmers and to the nation. That such a continued expansion of production could take place at all was due to the European market, which absorbed the agricultural surplus above our normal domestic needs. The distress of the farmer was largely owing to the fluctuations of this European demand, expanding enormously during World War I and afterward falling off until by 1940 the foreign markets were almost closed to our agricultural products. The outbreak of World War II again altered the situation and created a new demand for foodstuffs, cotton, and other agricultural commodities. Prices rose and farm income reached new highs.

Beginning in 1933 a new national agricultural policy was set up which looked to an economic balance between the agricultural output and the demand for these products, and also between agriculture and other industries. The objective of this "New Deal" was to bring about an equilibrium in which a more perfect adjustment might be obtained among these different interests. But such a policy involves a reorganization of American agriculture which creates new problems. We must first make up our minds as to the purpose of such a reorganization. Shall we strive for a maximum of efficiency in the utilization of the land or for the maintenance of as large a number of farm families as possible? The former involves the use of improved machinery and scientific technique, by which a larger product can be raised with less

labor, thereby releasing both men and land for other uses. This is the method pursued in industry, according to which the more efficient low-cost plants crowd out the less productive ones. Dr. O. E. Baker concludes that the elimination of 28 per cent of the lowest income-producing farms would involve a loss of only 3 per cent of the commercial farm product. In the interests of efficiency these high-cost marginal farms should be closed down, but the removal of a million and a half farmers from the land presents a practically insoluble problem, and makes such a plan impracticable.

The individualistic habits and modes of thought of the American farmer go back to the days of subsistence farming. But these are largely inconsistent with commercial agriculture, to which so great a shift has taken place in the twentieth century. The farmer must sell his produce for cash, not only to pay his taxes, buy his farm machinery and clothing, but with his higher standard of living he must purchase automobiles, gasoline, washing machines, radios, electrical equipment, and entertainment. This commercialism requires larger and larger money incomes, and calls for further adjustments in production and land utilization.

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On farmers' organizations the best books are E. Wiest, *Agricultural Organization in the United States* (Lexington, Ky., 1923); S. A. Rice, *Farmers and Workers in American Politics* (New York, 1924); C. B. Fisher, *The Farmers' Union* (Lexington, Ky., 1920); P. R. Fossum, *The Agrarian Movement in North Dakota* (New York, 1925); and J. D. Hicks, *The Populist Revolt* (1931).

For agricultural education reference may be made to the two monographs by A. C. True, listed in Chapter XX. An interesting account of the work of American agronomists is P. de Kruif, *Hunger Fighters* (New York, 1928).

CHAPTER XXVII

MANUFACTURES

Growth of manufactures.—Three events had a profound influence on American manufactures during the period 1914–1941. The first was World War I, the second was the great depression following the panic of 1929, and the third was World War II. Before taking up an analysis of the causal relationships it is desirable to present the facts. The dominating position of manufactures in our national economic life is easily shown. The 1940 census reported the value added by manufactures in 1939 as \$25,000 million or nearly triple the value of the products of agriculture, which were \$9000 million according to a preliminary estimate. Shortly after the census of 1910 the number of persons employed in manufacturing passed that in agriculture, and by 1940 the two figures were 7.9 million in manufacturing and 3.1 million in agriculture.

GROWTH OF MANUFACTURES, 1914–1939*					
Year	Number of establishments	Annual average number of wage-earners	(In millions of dollars)		
			Wages	Cost of materials	Value of materials
1914	173,656	6,478,713	3,783	13,824	23,066
1919	210,426	8,431,157	9,673	36,284	60,054
1921	192,275	6,484,447	7,468	24,446	41,749
1925	184,108	7,879,508	9,994	35,194	60,926
1929	206,811	8,380,536	10,910	37,441	68,178
1931	171,450	6,136,144	6,689	21,229	39,830
1935	167,916	7,203,794	7,311	26,441	44,994
1937	166,794	8,569,231	10,113	35,539	60,713
1939	184,230	7,886,567	9,090	32,160	56,843

* *Statistical Abstracts of the United States*, 1940 (Washington, 1941), 802 and the Sixteenth Census. Figures are only for establishments having products valued at \$5000 or more.

Another index of the increasing application of the people to manufacturing and other industrial pursuits is furnished by the urban concentration of the population. In 1920, for the first time, the census reported over half (51.4 per cent) of the population as urban, that is, living in towns of 2500 inhabitants or over. Even if we place the limit at cities of 10,000 inhabitants or over, as having a somewhat more industrial flavor, we find that the percentage of persons living in such places grew from 27.6 in 1890 to 47.6 in 1940, while the number of these cities increased from 342 to 1077 during the same period. The growth of manufactures as a whole is shown in the table on page 709. The outstanding fact shown in the table is the fluctuating character of the growth which has taken place. Between 1914 and 1919 it was extraordinarily rapid; the next decade saw recession and advance, while the last decade witnessed a sharp decline followed by a partial recovery. There can be little doubt that World War II will produce another remarkable upward trend.

Effect of World War I upon manufactures.—When the war began in 1914 American industries were in a depressed state, but the urgent demand from the European belligerents for war supplies of every sort quickly led to revival and expansion. Our exports to the five leading nations of the Entente Allies grew from \$927 million in the fiscal year 1914 to \$2432 million in 1915 and \$3012 million in 1916. These foreign orders were for explosives, iron and steel, copper, brass, bronze, and zinc, automobile parts, boots and shoes, canned goods, meat and dairy products and similar articles. As a result, manufacturing industries which could produce munitions and war supplies expanded and prospered greatly. With the diversion of labor and capital into war industries, however, other enterprises suffered correspondingly. Building operations were almost at a standstill and in many cities factories were shut down, while unemployment and high prices showed that the war prosperity was very unevenly distributed.

The same thing was true in even greater degree after the United States entered the war in April, 1917. In order to mobilize the industrial forces of the nation and direct all ef-

forts to the single task of winning the war, there was early created a War Industries Board. Its functions were to obtain materials for military purposes with the minimum dislocation of industries ; to restrict non-war production ; and to fix maximum prices. Through the War Priorities Board, fuel, transportation facilities, labor, and even credit were assigned first of all to war industries, while those producing luxuries or dispensable goods were forced to curtail or even to suspend their operations. Government contracts were made with private contractors on the basis of cost plus a profit of 10 per cent or more, an extravagant but effective method of speeding up production. Profiteering was checked when too shameless, but the whole system of war production was necessarily wasteful, since normal safeguards on cost were disregarded under the influence of war needs and rising prices.

Post-war changes.—The resumption of peace time activities after the armistice compelled a readjustment of industry along many lines. Those industries which had served war demands and essential needs—munitions, food, and clothing—had expanded greatly, and now faced the problem of finding a profitable use for their enlarged facilities. This was solved for some by the renewal of activities in those lines which had been starved during the war, such as residences, office, store, and factory buildings, roads, and public works of all kinds. There were added a few new lines such as the dye and chemical industries, of which before the war Germany had had a practical monopoly. Considerable shifts also took place in domestic manufactures. The expanding automotive industries practically ruined the wagon, carriage, saddle, and harness business, and cut seriously into that of railroad construction ; the radio diminished piano-making ; rayon partially supplanted cotton in the textiles.

Other changes, still more fundamental, were taking place. Down to the period of World War I the expansion of manufacturing had always been based upon the availability of a large body of wage-earners. That event put a premium on the use of labor-saving machinery greater than ever before, and manufacturing plants came to depend more on technical equipment and skill than on mere numbers. Pro-

fessor Mills concluded¹ that "in the six years 1923-29 the technique of physical production reached a higher development than at any other time in our history." During this period the value of the manufactured product increased 13 per cent but the number of wage-earners in these industries declined 7.4 per cent, while the productive efficiency, that is the per capita productivity, increased 22 per cent. Such a change involved an increasing amount of industrial displacement and readjustment with an increase of unemployment, unless the displaced labor could be absorbed in new lines or by the expansion of old ones. There is a soothing economic theory which asserts that this will always take place, but events in the United States for the next few years raised doubts in the minds of many.

In the previous chapter it was shown that as income increases the per cent spent on primary wants—food, clothing, and shelter—tends to decline. The goods which gratify less imperative needs not only have a highly elastic demand, but in the vast market provided by 132,000,000 people with a high standard of living they are produced in enormous quantities. Production on a large scale is cheapest by machine methods and consequently a great deal of labor and capital is first invested in instruments of production. Manufacturing becomes highly instable as demand fluctuates in response to advertising, a buyers' strike such as occurred in 1921, changes in income, and other factors. Goods of elastic demand absorbed a constantly growing proportion of the national income down to 1929, and even our most important exports were of the same character, thus introducing new elements of instability in our industrial organization. The crisis of 1929 and the subsequent depression lends support to the thesis that during these years too large a proportion of our labor and capital was being sunk in fixed capital equipment and plant expansion, at least in certain industries. The same over-investment in fixed forms of capital took place that had led to the panics of 1873 and 1893, only in those cases the over-expansion was in railroads and now it was in some lines of industrial plant and equipment.

¹ F. C. Mills, *Economic Tendencies in the United States* (New York, 1933), 530. See also p. 289.

Concentration in large establishments.—The same tendency toward the growth in size of the single plant, that began in the last period,² continued after 1914. Indeed, to such an extent was the size of the typical individual establishments being enlarged, that after 1914 the census bureau ceased collecting statistics of establishments turning out products with a value of less than \$5000 a year. Such small businesses declined from 95,000 in 1914 to 54,000 in 1923. The next larger group, with products of \$5000 to \$20,000, also showed a falling off absolutely in this same period, as did all others relatively up to the largest group of all, comprising those establishments with products of \$1,000,000 or more. This group, which in 1914 turned out 49 per cent of all manufactures, was producing 69 per cent in 1929, and almost the same in 1937. This movement is shown succinctly in the following table :

SIZE OF AVERAGE MANUFACTURING ESTABLISHMENT*					
<i>Year</i>	<i>Average product</i>	<i>Average cost of materials</i>	<i>Average horse power</i>	<i>Average number of wage-earners</i>	<i>Index of volume of production per establishment</i>
1914	135,500	80,000	126	38.9	100
1919	289,800	174,000	137	45.3	104
1925	335,370	175,000	196	44.8	153
1929	333,800	182,000	203	41.8	154
1931	240,000	122,000	—	37.2	123
1935	267,860	156,400	—	42.8	142
1937	363,500	212,800	—	51.3	185
1939	308,900	174,500	278	42.3	157

* U. S. Census Reports, except for column 6 which is from Temporary National Economic Committee, Monograph No. 27, *The Structure of Industry*, 4.

The indexes of growth given here tell the same story. Between 1914 and 1929 the average number of wage-earners per establishment increased from 39 to 42, the amount of horse power from 126 to 203, and the value of product from \$135,000 to \$334,000. The conclusion is irresistible that large scale manufacturing was continuing to expand at the

² See page 539.

expense of the small producer, though the rate of growth had begun to falter even before 1929. After that year there was a marked falling off, due, not to a multiplication of small plants, but to the contraction of production in general. There is observable here, however, the same tendency for the extension of large plants to slow up or even for a reverse movement in favor of small ones to take place in times of prolonged depression that was noticed in the case of large scale farming. However, with the revival of prosperity in 1937 the production per establishment spurted to a new high, which will doubtless be surpassed under the stress of World War II.

The general reasons for the growth of the large establishment have already been described, but certain tendencies became more pronounced in this period. The outstanding ones were the technical and mechanical improvements in organization and machinery, and the greater use of mechanical power. These call for further analysis.

Power in manufacturing.—In the period 1914 to 1939 the amount of power furnished by prime movers and electric motors more than doubled, growing from 22,000,000 h.p. to 51,000,000 h.p. Of this great increase steam furnished only a small fraction, and many of the steam engines, moreover, were used to generate electric power within the plant. The victory of electricity is complete.

“Acceleration rather than structural change is the key to an understanding of our recent economic development,” reported the Committee on Recent Economic Changes to President Hoover’s conference on unemployment in 1929. And the increased velocity of our progress is largely ascribable to the enlarged supply of power and its wider uses. That the use of power increased faster than the number of workers or even of production is shown in the table on page 715.

Here is clear evidence of the cause of the greatly enlarged productivity of the American workman, and of the speed which characterized practically all lines of production. Notwithstanding the reductions in the length of the working-day, per capita productivity was over 50 per cent greater in 1939 than it was toward the close of the nineteenth century.

INDEX OF GROWTH					
	1899	1914	1919	1929	1939
Power.	100	224	294	431	486
Production (quantity)...	100	169	214	395	331
Wage-earners.....	100	146	191	188	177
Population.	100	131	140	162	209

Quite as significant as the growth in amount has been the change in the character of the power. The improvement of electrical devices and the introduction of the gasoline engines added new sources which revolutionized not only manufacturing and transportation, but our social life as well. Both of these can be furnished at any point desired, in any quantity and for any other length of time, and can be applied in small units. The location and technique of factories was profoundly affected by these changes. Also the equipment of the modern kitchen and home laundry with their many electrical appliances virtually made miniature factories of the up-to-the-minute home. If the horse power stated in the figures given above be expressed in term of manpower, then in 1939 each factory worker had at his command 66 iron slaves. Such an addition to our productive capacity made the genii of Aladdin's lamp appear mere shadow men.

✓ **Scientific management.**— Such a mechanization of manufacturing could not take place without corresponding changes in the organization and equipment of the factory. Perhaps the most striking feature was the arrangement of the factories on the flow-sheet design, so that the raw materials moved steadily from one operation to another, in a continuous stream, until they emerged as finished goods.³ The most spectacular illustration of this principle was the assembly line in the Ford automobile factories, in which a conveyor, moving six feet a minute, carried to the workmen, each of whom performed only one operation, the parts to be assembled. The Chevrolet and Ford motor companies dem-

³ For a description of this method and its application to various industries, see E. L. Bogart and C. E. Landon, *Modern Industry* (rev. ed., New York, 1936).

onstrated the same method to thousands of observers at the Century of Progress Exposition in Chicago in 1933 and 1934.

But not merely was the machinery arranged in a fashion to produce the most efficient results ; the job itself was analyzed and an effort made to obtain maximum production from the worker. The expression "scientific management" was applied to a system first proposed by F. W. Taylor toward the end of the nineteenth century, but which has been greatly expanded and refined by his successors in the twentieth. Taylor analyzed each operation to determine the maximum speed at which the work could be done and the most efficient type of tool and the manner in which it should be used ; later he emphasized factory layout and shop organization. Science was to supplant the old rule-of-thumb methods. That there was need for a more careful analysis of methods of management was shown by a report of the American Engineering Council in 1921 entitled *Waste in Industry*. This report estimated that, for the six representative industries studied, 50 to 80 per cent of the responsibility for waste rested upon faulty management.

Efficient organization is now universally recognized as a necessary condition to large scale production. The willingness to change methods, to adopt new inventions, to scrap machinery still physically good in favor of something better, and to reorganize a whole system in order to reduce costs, are typical. A striking illustration of this occurred in the efforts to reduce waste in industry after World War I. The engineering council just mentioned reported a great plant extension, probably beyond the needs of the nation, and considerable waste in a number of directions. The trades affected reorganized their plants and greatly reduced costs. A single but significant illustration may be given. It was found that there existed a chaotic variety of sizes and shapes of materials that was both unnecessary and uneconomic. Investigation showed, for example, that there were 287 kinds of tires which could be reduced to 32 ; 210 different shapes of bottles, reducible to 20 ; 175 kinds of automobile wheels, reducible to 4 ; 66 shapes of bricks, reducible to 7. The savings to manufacturers from the adoption of the simplifica-

tions proposed were estimated at \$600,000,000 annually. National co-operation in an efficiency program of this sort marked a new departure in the conduct of industry.

Industrial research.—Factory organization and management were only aspects of a much broader development that was going on; namely, the use of scientific methods in industry. The application of science in order to perfect industrial technology was belated, but the twentieth century already witnessed the conversion of the American business man, and frequently of his plant or factory. Practical application was made of the latest researches of biology, chemistry, physics, and other sciences, and many of the leading scientists like Edison, Bell, Steinmetz, and others, devoted themselves to the industrial utilization of scientific discovery. So important did invention become in modern industry that progress along these lines is no longer left to the unaided efforts of some talented individual. Most great manufacturing plants today have their research departments in which experiments are being carried on at an expense far beyond the means of an individual inventor. In 1938 the total industrial research bill of some 30,000 scientists and their laboratories was estimated at \$180,000,000. The following table shows the progress made in the last decade and

INDUSTRIAL RESEARCH*				
<i>Industry</i>	<i>Research employees 1929</i>	<i>Research employees 1938</i>	<i>Gain per cent</i>	<i>Rank in 1938 by research employees</i>
Chemicals.	3451	9467	174	1
Petroleum products.	788	5033	539	2
Electrical machinery.	1893	2992	58	3
Consulting laboratories.	1173	2663	127	4
Machinery (other than radio, transport, electric).	1047	2335	223	5
Rubber.	1115	2250	102	6
Electrical communication.	2052	2202	7	7
Automobiles.	673	1953	190	8
Iron and steel.	541	1521	196	11
Radio and apparatus.	29	1117	3852	15

* *Fortune Magazine* (October, 1939), 85. Based on WPA analysis of National Research Council figures.

indicates which industries were most active. Noteworthy laggards are industries like coal, leather, and railroads. One concrete result is that this country leads all others in patents registered and has issued close to 50,000 a year in the last ten years. Another result is seen in the many new developments of the last decade: out of the lowly soybean are now made glycerin, explosives, waterproof goods, soaps, printing ink, and so many automobile parts that Henry Ford has boasted that some day he will make the entire car out of soybeans. Women's nylon stockings are now made out of coal, air and water; rayon can be substituted for wool in the manufacture of rugs and carpets; glass can be transformed into yarn and woven into cloth on standard textile machinery; celotex, which is increasingly used in building houses, comes from what was formerly refuse in refining sugar; synthetic rubber is being produced from petroleum; more and better gasoline is obtainable from petroleum through catalytic cracking, hydrogenation, and other processes; progress is being made on the extraction of high grade gasoline from garbage; the radio industry with its frequency modulation and television is on the threshold of extraordinary improvements; and the airplane is continually made cheaper and safer, and so more accessible to the man who now drives a car. The new technology, based upon the knowledge of chemistry and the use of electricity, the internal combustion engine, the radio, and the airplane, is inaugurating economies and social changes even more momentous than those introduced by the invention of the steam engine over one hundred and sixty years ago. For example, as chemistry teaches man to satisfy his needs from simple and easily obtainable raw materials, the race for such natural riches as rubber, petroleum, and metals may slacken and a strong incentive for wars be lessened. Or, as it becomes possible to transmit power long distances, and as radios, automobiles, and airplanes are improved, the need and desire for concentrating much of our economic activity in large cities may be abated. These illustrations are quite within the realm of possibility, although the trends are not yet clearly discernible.

Iron and steel.—The progress and changes which were taking place in manufacturing can be shown best by tracing

the development in particular industries, and for this purpose the basic industry of iron and steel may be chosen first. Here can be studied in detail the features which characterized manufactures in general in this period. The following table shows the major movements :

CRUDE IRON AND STEEL ROLLED PRODUCTS, 1909-1937*					
Year	Number of establishments	Annual average number of wage-earners	(In millions of dollars)		
			Wages	Cost of materials	Value of products
1909	654	278,505	187.8	978.1	1,377.2
1914	587	278,072	210.9	855.1	1,263.3
1919	695	416,748	711.4	2,301.9	3,623.4
1925	595	399,914	660.3	2,429.4	3,711.4
1929	591	419,534	731.0	2,514.4	4,127.2
1933	466	288,945	270.4	876.0	1,357.6
1937	497	502,417	817.8	2,378.6	4,003.0
1939	498	418,529	639.0	2,071.4	3,406.3

* *Statistical Abstract of the United States* (Washington, 1942, p. 815).

Although the iron and steel industry had lost its pre-eminence of leadership among American manufacturers which it held in 1900, having sunk to second place in 1914, third in 1929, and fifth in 1937, it was still one of the most important, for it was basic to many others. Whether measured by the value of the product or the number of wage-earners, it showed a great expansion in the period from 1909 to 1929. The most rapid development occurred during and as a result of World War I when we supplied a large part of the needs of our Allies as well as our own for war materials. By 1929 we were turning out about half the world production.

This industry also reflects the major and minor fluctuations of this period. That is better illustrated by the iron and steel production index, which shows the ups and downs in response to business conditions. From a level of 88 in 1919, it fell to 50 in 1921 as a result of the depression of that year, recovered to 110 in 1923, dropped to 92 the following year, after which it showed a fairly steady rise to 135 in

1929. The next decade showed even wider fluctuations— from a low of 33 in 1932 it rose to 114 in prosperous 1937, then dipped to 68 in 1939 and climbed to 191 under the influence of World War II. Only one other major industry, namely automobiles, showed a more temperamental behavior.

Iron and steel is an industry of decreasing costs ; that is, the cost per unit decreases as plant equipment increases. It requires an extremely large investment of capital in order to realize the maximum economies, and is therefore a large scale industry. There has been a constant tendency toward concentration in large plants, as is shown by the reduction in the number of establishments from 695 in 1919 to 497 in 1937. Of the 497 establishments in 1937, 123 employed over 1000 wage-earners each. Four companies produced about 64 per cent of the iron and steel output of the whole country in 1938, over half this being turned out by the largest of them all, the United States Steel Corporation. However, it is not true that the larger a plant the greater its efficiency—at any time there is probably an ideal size. For that reason the large companies often found it more profitable to expand by building new modern plants or buying out competitors. Merging of competing plants is called horizontal combination.

Integration was also characteristic of the iron and steel industry ; that is, the bringing together under one control of the various stages from the mining of the ore to the turning out of the finished product. This had already been effected during the previous period by the United States Steel Corporation, which owned its own mines, railroads, steamship lines, blast furnaces, rolling mills, and plants to produce other finished commodities. But the present period saw a still further movement in this direction and a consolidation of the earlier vertical combinations. Even during the depression these integrated companies held their gains.

Within the steel industry changes were taking place. Open hearth steel passed Bessemer around 1908 and by 1942 its capacity was about eleven times as great. Electric steel completely displaced crucible steel for fine tools and cutlery, although the high cost forbade its general use. Despite the low level of operations during the 1930's the steel industry

made extraordinary advances and in the rather dull five-year period ending in 1938 spent nearly \$1000 million in the construction of plants and purchase of machinery. Mr. Edward R. Stettinius, Jr., Chairman of the United States Steel Corporation, testified before the Temporary National Economic Committee in 1939 that "it must be realized that the steel industry has been through a revolution since the early 1920's." Modern rolling mills produced a new kind of sheet steel from which all-steel automobile bodies and one-piece tops could be made ; a new steel pipe was devised which made it possible to drill oil wells to a depth of 15,000 feet ; and advances were made in the manufacture of structural steel and of tin plate to aid the preservation of foods. But perhaps the most important technical improvement was the widespread use of ferro-alloys, such as titanium, manganese, tungsten, and others, by means of which light, tough, springy, and hard forms of steel were produced. For example, out of the new high tensile steels faster, lighter, and yet more comfortable trains were manufactured. Up to 1939 there was a noticeable tendency for the per cent output of lighter steel to increase at the expense of the heavy steels like rails, pipes, and structural shapes.

The textile industries.—The iron and steel industry is a capital goods industry ; by contrast a consumers' goods industry may be noted, and for this purpose the textiles are chosen. The combined textile industry ranked fourth in the United States, with a total product of \$4000 million in 1939. The growth of the textile fabric industry alone is shown in the table on page 722.

Of the different branches of the industry, cotton goods continued to rank first in 1937, with practically one-third the total output, followed by wool and hair manufactures, knit goods, and silk and rayon. The most spectacular advance was made in the rayon, or, as it was formerly called, artificial silk industry. Although the first American factory was not established until 1910, by 1929 the United States was the leading producer in the world, a lead maintained until recently when first Japan and then Germany passed us. The industry is confined largely to the southern states, because cotton linters constitute the principal raw material. Other

TEXTILE FABRIC INDUSTRY, 1914-1939*				
Year	Number of establishments	Annual average number of wage-earners	(In millions of dollars)	
			Cost of materials	Value of products
1914	5942	950,880	1185	1935
1919	7143	1,052,327	3258	5482
1925	7470	1,110,209	3234	5343
1929	6974	1,096,163	2821	5043
1931	6818	899,607	1527	3024
1935	6699	1,063,307	1918	3347
1937	6279	1,125,514	2253	3987
1939	6444	1,082,602	2109	3931

* Statistical Abstracts of the United States.

synthetic textiles which may be expected to assume increasing importance as the nation searches for substitutes for overseas supplies are vinyon, glass, casein, and soybean fibers.

The most significant change which took place in the textile industry in this period was the continuous shift from New England to the South. It is difficult to gauge the extent of this movement because of the variety of products and the differences in value, but the consumption of raw cotton and the number of spindles are rough indexes. Judged by the former criterion the South passed New England in 1905, but not until 1925 did she have a larger number of spindles. After that the spindlage in the South remained very stable, at about 18,000,000 in active operation, while those in New England fell to 5,000,000 in 1940. Much of the gain in the South represents the purchase of second-hand spindles removed from defunct northern mills and installed in southern ones. The surviving New England mills seem to have devoted themselves to the production of finer goods, leaving the coarser products to the South. The one great advantage which this section possesses is cheap labor, and this can be used more advantageously in the lines calling for a minimum of skill. The progress of all these branches of the textile industry must be attributed to the introduction of machine methods and the application of inventive genius and

mechanical skill ; these were made profitable by the expansion of the domestic market.

Motor vehicles.—The most spectacular and far-reaching event in the annals of both manufacturing and transportation in the twentieth century was the rise of the automobile industry. Not mentioned in the census of 1900 it ranked first in 1929 with a total product of \$3723 million, and has ever since remained at or near the top. This epic of modern industry is only partially portrayed in the cold census figures of growth, which are given below.

GROWTH OF AUTOMOBILE INDUSTRY, 1914-1939*

Year	Number of establishments	Average annual number of wage-earners	(In millions of dollars)		Number of autos sold
			Cost of materials	Value of products	
1914	300	79,307	293	503	573,000
1919	315	210,559	1579	2388	1,876,000
1925	297	197,728	2108	3198	4,428,000
1929	244	226,116	2402	3723	5,621,000
1931	178	134,866	1044	1568	2,472,000
1935	121	147,044	1815	2391	4,120,000
1937	131	194,527	2394	3096	5,016,000
1939					3,733,000

* *Statistical Abstracts of the United States.* Comparable data for 1939 were not available at time of publication.

Since the automobile has exerted its most transforming influence upon transportation, the story of its development will be reserved for a later chapter ;⁴ here only those aspects which pertain to its manufacture will be considered. Not only does this industry turn out a larger value of products than any other, but it is the center of a host of satellite and parasite industries which feed upon it. Thus in 1939 it consumed 90 per cent of the gasoline product, 80 per cent of the rubber, 75 per cent of the plate glass, 68 per cent of the leather, 51 per cent of the malleable iron, 34 per cent of the lead, 23 per cent of the nickel, 18 per cent of the steel, 14 per cent of the copper, and a vast amount of cotton,

⁴ See Chapter XXIX.

lumber, aluminum, and other materials. It has created the hard roads and yet employed more than 3,600,000 railroad cars in 1939. The industry claimed that it gave employment directly and indirectly to about 6,500,000 workers.⁵

Automobile manufacture is both greatly concentrated and highly integrated. Three giant corporations account for 90 per cent of the production—Ford, General Motors, and the Chrysler-Dodge combination. The Ford Company represents the highly centralized type of organization, practically owned and certainly operated by a single family. It is a vertical combination, embracing all steps in the making of an automobile, from the ownership of iron mines, blast furnaces, and railroads, to the control of selling agencies. Started with a meager capital of \$100,000 in 1903, it has been built up by plowing back into the business profits which, in the prosperous years 1923–1925, ran up to \$100,000,000 a year. Henry Ford, its founder, exhibited great organizing ability, carried standardization to the limit, and introduced the famous system of the assembly line. By these methods he was able to produce a low-priced car, the Model T, of which the fifteen-millionth was turned out in May, 1927, and driven in state across the country. The competition of other cheap yet more attractive cars, together with the rise in the standard of living and the demands of the public, twice forced him to alter his model radically. Once in 1927 he closed production for several months and then presented his more modern Model A to the public, and a second time in 1932 drastic alterations were made and then the greatly improved Model V-8 was brought out.

Another great automobile giant is the General Motors Corporation, dating from 1908 but wholly reorganized in 1920. This represents a decentralized type of organization, for each of its producing units—such as Chevrolet, Pontiac, Oldsmobile, Buick, Cadillac, and others—retains its independent identity. It is a horizontal combination, formed by bringing together under one general control a number of formerly competing units. This company has adopted the policy of furnishing the public with practically all types of cars in each price class, and therefore makes

⁵ *Automobile Facts and Figures*, 1940 (Detroit, 1941).

many kinds. Within each plant, however, there exist the same economies of large scale production and efficient organization that characterize all the large automobile establishments.

Necessary as they have become in our modern economic life, automobiles are still sufficiently a luxury to be subject to a highly elastic and fluctuating demand. The manufacturing production index,⁶ starting with a low of 42 in 1921, jumped to 105 in 1923, and then rose to 139 in 1929; from this high point it fell precipitately to 36 by 1932. It then climbed steadily to 125 in 1937, dropped sharply to 65 in 1938, and then skyrocketed to a new high in mid-1941. In February, 1942, the industry ceased production of automobiles altogether and turned all its attention to making tanks and other war supplies. While the automobile industry affords an extreme case, it was symptomatic of the fluctuations of the business cycle in this confused period.

The localization of manufacturing became less marked as the industrialization of the country became more general. New England and the Middle Atlantic states lost their monopoly, and the east central section seized the industrial leadership. The six states of New York, Pennsylvania, Illinois, Michigan, Ohio, and California together produced about half the total manufacturing output, ranking in the order named. The reason was not the absolute decline of the former centers, but rather the general dissemination of manufactures over the whole country, so that no single section any longer controlled an industry. Relatively, New England fell back and the Pacific region advanced. The South made great industrial advances, but her growth did not subtract from the manufactures of other sections, except in the cotton goods industry. The center of manufactures pushed steadily westward. Finally, the extreme concentration of certain industries in favored centers is less marked. Thus Chicago's share of the slaughtering and meat-packing industry fell from 36 per cent of the national total in 1900 to 19 per cent in 1930 while Philadelphia's share of carpet- and rug-making declined from 46 to 28 per cent, although in both cases there was an absolute gain.

⁶ *Federal Reserve Bulletin*, esp. Aug., 1940, 830.

Industrial combinations.—The growing mechanization of industry brought with it an increasing tendency toward combination and monopoly. Machine industry, involving the use of large amounts of capital, operates under conditions of decreasing costs ; that is, it realizes the greatest economies when conducted on a large scale. Strong pressure is therefore exerted to eliminate competition by combination, and to hold up prices by monopoly control. Business organization for the control of industry has been quite as significant as technological improvement in the industries themselves.

World War I hastened the tendency toward combination. There was strong pressure for increased production, and for the most efficient utilization of resources, capital, and labor. It was found that this could best be achieved in most instances by co-ordination under strong central control. Indeed, the government took the lead in this direction. The railroads were taken over by the federal government and operated as a unified system by an all-powerful Director General. The War Industries Board was set up to prevent competition among agencies purchasing war supplies and to regulate production under practically dictatorial powers. Standardization was enforced among private manufacturers, and even governmental price-fixing was employed to some extent.

After the war there was a strong reaction from the extreme governmental regulation, and an insistence upon a return to private ownership and operation. But the events of the war period had two effects : it demonstrated to the public the advantage of co-ordinated industry, and it greatly modified the hostile attitude toward the trusts. As a result of all these forces there occurred a new era in the combination movement. Combinations, largely in the form of mergers, resulted in the disappearance, from 1919 to 1939, of about 9500 companies as independent concerns, in manufacturing and mining alone.⁷ The movement grew during the 1920's, reached its peak in the years 1927-1929 when exactly one-third the above 9500 concerns disappeared, and dwindled during the 1930's to a mere 87 by 1939. In the

⁷ Twentieth Century Fund, *Big Business : Its Growth and Its Place* (New York, 1937), 32.

decade 1919 to 1928, 4500 public utility enterprises were combined, chiefly under holding companies. There was also an increase in banking mergers and consolidations, the motion picture industry has been steadily consolidated, and there has been a marked tendency toward the development of chains of retail stores. In short, scarcely any phase of economic activity has been free from this influence, which at its peak exceeded in magnitude the earlier combination movement of 1898.

There were other methods of eliminating competition besides the merger, methods so subtle that for a time they almost defied detection by commissions and courts. These might be achieved by the leaders of an industry or through a trade association. Two devices will suffice to illustrate: the first is the basing point system, and the second is "price stabilization" as encouraged by trade associations.

The prime example of the basing point system is the "Pittsburgh Plus" method of pricing used in the steel industry previous to 1924 and continued with modifications thereafter. The steel trust took the lead and other concerns saw fit to follow. Most steel products were priced as if produced in, and shipped from, Pittsburgh. The effect of the practice was that there was virtually no price competition anywhere. Thus the older steel trust plants in the Pittsburgh area were protected against outside competition, and the plants of the trust or of independents elsewhere enjoyed a huge profit from the "phantom freight" charges paid them. Everyone but the consumer liked it. The practice has also been found in the cement, copper, sugar, maple flooring, and numerous other industries.

Price stabilization is little better than a polite name for price-fixing, although trade associations strive earnestly to draw a distinction. They urge members to "co-operate," they lecture on the disadvantages of price-cutting, and they sometimes publish price lists and other information indicating supplies available and sales recently made. The association's information is considered most successful when the prices of certain leaders are copied by the majority of the industry. On occasions steps are taken against concerns that do not play this game: they may be expelled from the asso-

ciation, find it difficult to secure credit, or suffer disparagement or predatory price-cutting at the hands of association members.

Anti-trust legislation.—Under President Wilson a Federal Trade Commission had been created in 1914 to administer anti-trust laws and prevent unfair methods of competition. During the next decade the commission performed valuable service by its “cease and desist” orders in preventing such unfair acts as misbranding goods, making false claims in advertising, price discriminations, and discrediting competitors. Adverse court decisions and executive hostility, however, as well as business opposition, forced the commission after 1925 to confine its activities largely to false advertising. In the meantime, however, it had adopted the plan of calling trade practice conferences of the leading concerns in a given business to formulate codes of fair trade, and in this way tried to introduce a policy of self-regulation; but the effectiveness of this plan declined during the depression. In recent years the commission has been given the responsibility of administering new fair trade laws. Chief criticisms of the commission are that it acts in the dual role of both prosecutor and judge and that it keeps secret the terms of settlement with firms against whom proceedings are begun and then dropped.

The other law passed in 1914 was the Clayton Anti-trust Act, which specifically defined as unfair practices price discrimination among different purchasers, exclusive dealer and tying contracts, one corporation’s holding the stock of another where this would lessen competition substantially, interlocking directorates, and relations of railroads with construction companies. After more intimate acquaintance with the methods of big business during the war, the public began to realize that not all combinations were bad. When the Transportation Act of 1920 was passed, therefore, the earlier restraints upon railroad combination were removed and a policy of encouraging consolidation was adopted, subject to regulation through the Interstate Commerce Commission.

In two other respects the legislation with regard to combinations was made more liberal. It was felt that the fullest possible co-operation among merchants engaged in foreign

trade was desirable, if they were to compete in foreign markets on a basis of equality with merchants from other countries. Accordingly the Webb Export Act of 1918 provided that American exporters might organize associations for conducting export trade without thereby rendering themselves liable for violation of the anti-trust laws. The same principle was applied also in the Co-operative Marketing Act of 1922, which recognized the right of farmers, ranchers, and growers to combine for the purpose of obtaining more efficient distribution of their products.

The National Industrial Recovery Act.—The legislative trend of the prosperous 1920's was favorable to combinations in that little was done to hinder their growth and the depressing 1930's did not soon bring a reversal of this attitude. After the panic of 1929 business declined sharply, prices fell, unemployment skyrocketed, and public discontent mounted to almost revolutionary proportions by 1932. In his campaign Franklin D. Roosevelt had promised the country a "New Deal," but the details had been vague. After his election, however, legislation was rapidly passed by a subservient Congress, instituting a comprehensive program of reform and giving the President vast powers. Chief of the new laws was the National Industrial Recovery Act of 1933⁸ whose aims were to reduce unemployment, to increase purchasing power, and to insure just rewards to both capital and labor by eliminating unfair competition. Here we are concerned only with the last named feature.

The occasion for such legislation may be found in the events of the three and a half years of depression. The "rugged individualism" of President Hoover had failed to restore prosperity, and the business leaders had in many instances been discredited. The ethics of business deteriorated under the pressure of increasing competition, and reputable producers felt forced to adopt the practices of their less honorable competitors. In order to survive, firms had also repeatedly cut prices and granted rebates, but seemingly without gaining much for themselves and yet often hurting the market for their product. When an industry was over-

⁸ This act was known as the N. I. R. A., and the body set up to administer it, the National Recovery Administration, was known as the N. R. A.

expanded and had to be partially liquidated, price-cutting, so painful to the seller, was a necessary part of the process. Virtually the only alternative was some form of monopoly with price-fixing and production controls. American industrialists had reached a point where they were ready to unite against unfair or unpopular practices, chief of which, in the eyes of many, was price-cutting.

The National Industrial Recovery Act authorized industries to organize representative associations and to frame codes of fair competition, which, upon approval by the President, should become binding upon the whole industry. An approved code constituted the standard for an industry or trade, and violations were deemed an unfair method of competition within the meaning of the Federal Trade Commission Act. The President was also given authority to impose codes on industries which refused or failed to frame acceptable codes for themselves, and also to move to punish violators of codes which had received his approval. By the end of the first month of the N.I.R.A. over 400 codes had been filed and eventually the total reached 677, including activities ranging from steel production to pants pressing. Unfortunately, many of the codes were too hastily drawn. The cotton textile code was the first one to be signed and its great achievement was the setting of minimum wages and the abolition of child labor. After this it was not difficult to write similar provisions in all other codes.

With anti-trust laws suspended, with many government leaders convinced that competition was wasteful, and with industries entrusted with self-regulation following a period of cut-throat competition, it was not surprising that some industries drew up codes that gave them monopolistic powers. For example, the copper and petroleum codes provided for the limitation of output by means of plant quotas; the textile industry and nearly sixty others controlled production by limiting the number of hours machines might be operated; and many codes had provisions forbidding sales below cost. In the soft coal industry a generous minimum price was set which so stimulated the industry that more coal was produced than could be disposed of at that price, agreements

were broken, and the code had to be abandoned.⁹ This illustrates a truth that supporters of price-fixing often overlook, namely, that cutting prices is one of the chief ways by which the more efficient producer enlarges his market at the expense of his inefficient rival and is one of the secrets of the improving American standard of living.

N.I.R.A. was destined to be short-lived: in May, 1935, the Supreme Court unanimously declared it unconstitutional in the famous *Schechter* case involving violations of the Live Poultry Code. Thus ended an experiment in self-government by business, and with its close existing anti-trust legislation was once more restored. N.I.R.A. did much to improve business ethics and among other things it was a step in the outlawing of child labor, but it also represented the extreme in legislation favorable to monopoly in this period. Soon the trend was to be the other way.

Recent anti-trust activities.—Two new laws affecting trusts were enacted in 1936 and 1937. The first was the Robinson-Patman Act of 1936, an amendment to the Clayton Anti-trust Act, which sought to define more clearly the forms of price discrimination that are illegal and to eliminate some that involve intrastate commerce. It forbade price discrimination between buyers where the effect is to limit competition substantially and tend toward monopoly. The act was intended principally to lessen the buying advantages of chain stores over smaller rivals who cannot enjoy the economies of volume buying. The other law was favorable to big business. This was the Miller-Tydings Act of 1937, which permitted resale price maintenance on the ground that the choice of any brand as a "loss leader" hurt the reputation of the brand, hence the manufacturer, and also disturbed local business conditions. The act legalized price-fixing from manufacturer to consumer. Although the evils it seeks to remove are real, its elimination of some price-cutting may create more serious problems.

The recession of 1937 brought on a renewal of trust prosecutions. Proceedings were begun against the country's best

⁹ G. M. Modlin and A. M. McIsaac, *Social Control of Industry* (Boston, 1938), 179-92.

example of a complete industrial monopoly, the Aluminum Company of America ; the Federal Trade Commission attacked the basing point system of the Cement Institute ; the Attorney-General pointed to the need of a monopoly-curbing program to reduce prices of materials needed for a public works program ; the President stressed the need of revising and improving the anti-trust laws ; and finally on June 16, 1938, Congress by joint resolution authorized the appointment of the Temporary National Economic Committee (T. N. E. C.) to find a way to reconcile existing anti-trust legislation and the growing concentration of economic power and to recommend appropriate legislation to Congress. The T. N. E. C. conducted extensive hearings and submitted its final report in March, 1941.

Whether World War II will have the same deadening effect on trust prosecutions that the previous war did remains to be seen. In February, 1942, the Department of Justice virtually agreed to undertake no new anti-trust prosecutions for the duration of the war.¹⁰

World War II.—War broke out in Europe on September 1, 1939, and soon afterward began to affect our industrial machine. Orders from abroad and from our own government for war materials stimulated the steel, aluminum, oil, copper, wool, and machine tool industries ; virtually created some new industries like magnesium and synthetic rubber ; and shifted others, like airplane construction, to a mass production basis. Wars, with their large orders for standardized products, have a tendency to enlarge the horizons of large scale production. As the overwhelming military power of the Axis became more apparent and the plight of Britain more critical, our government modified the neutrality laws, enacted a Lend-Lease measure to provide Britain and her allies with over \$13,000 million of war material, greatly increased the size of the army, and endeavored to stimulate and direct production.

After the Pearl Harbor attack of December 7, 1941, industrial mobilization was further accelerated. Industrial production was at this time double that of 1918 and President Roosevelt stated publicly that one-half the national

¹⁰ *Business Week* (Feb. 14, 1942), 15.

income eventually would be devoted to military expenditures. If modern wars were no more than races in production, the United States would appear destined to win, but world wars necessitate the spanning of oceans to overseas fronts, and this means that a tremendous increase and improvement in our shipping are also essential. To meet these various needs there were set up a War Production Board (W.P.B.), headed by Donald Nelson, to expedite production; a Supply Priorities and Allocations Board (S.P.A.B.) to determine who should have first call on scarce materials like aluminum, steel, and rubber; and an Office of Price Administration (O.P.A.) under Leon Henderson to study the cost problems of thousands of industries and set price ceilings to prevent undue inflation. During the first few months after our entry into the war much of the industrial war effort consisted of converting peace-time plants to war uses and to setting up huge new factories.

Recapitulation.—One of the outstanding developments of the last generation has been the tendency for the business unit to increase in size whether measured by number of wage-earners or value of product, and for the number of plants to decline. In the steel and automobile industries three or four major concerns were responsible for more than one-half the production. Public attitude toward combinations underwent several changes: World War I brought a slackening of anti-trust feeling and activity, and combinations were allowed to multiply rapidly in the prosperous 1920's; the depression produced an awareness of the wasteful aspects of competition and resulted in temporary suspension of the anti-trust laws when the government set up the N.I.R.A. and encouraged co-operation not only in better business practices but in price-fixing and determining the amount of output; then the death of N.I.R.A. and business revival saw a renewal of anti-trust activity in the late 1930's; and now World War II may alter the current of events again. Along with increased size certain other tendencies became more pronounced, such as increased use of power in manufacturing, technical improvements in factory organization, known as "scientific management," and a strong interest in industrial research. Great advances in the knowledge of chemistry resulted in new

products like plastics, light steels, and synthetic fibers being made from readily available raw materials. New mechanical developments produced long distance transmission of power, the radio, the airplane, and the internal combustion engine. All these bid fair to revolutionize the life of the coming generation and perhaps alter international economic rivalries.

The cynics tell us that "The one thing we learn from history is that we do not learn from history." A comparison of the conduct and consequences of World War I and World War II will show how much we have been able to profit by experience. Obviously, the second conflict differs in some details from the first ; equally obviously, there are similarities. It is the statesman's job to decide in what respects history will repeat itself and to try to shape public policy accordingly. To cite but one example, in World War I it took nearly a year before the War Industries Board was put under a single head and given adequate authority ; in World War II this was accomplished within one month. Whether other lessons will be learned as well and whether the eventual shift back from war-time to peace-time production can be accomplished with less painful readjustments remains to be seen.

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CHAPTER XXVIII

POPULATION AND LABOR

THE real test of the economic progress of the American people lies in the well-being of the whole population. In the last two chapters the extraordinary expansion of production was described, but it is necessary to ask how the laborer fared under the increasing mechanization that was taking place. This involves more than an account of trade unions or of labor legislation, which are only methods for securing to labor a larger share of current production and of protection against exploitation. The quantity and quality of the human element must be studied in order to estimate the importance and strength of this factor. For this purpose we may begin with the growth and composition of the population.

The growth of population.—The population of continental United States grew from 31,000,000 in 1860 to 76,000,000 in 1900 and 132,000,000 in 1940. Some of the more important facts connected with the growth of population during this period are shown in the table on page 738.

While statistics do not reveal the qualitative changes which took place, nor even all the quantitative ones, certain significant developments are indicated.

It will be noticed from the table, in the first place, that while there was a large increase in absolute numbers the rate of growth became less with each succeeding decade. The causes of this slackening of the rate of growth were varied. As the country became more thickly settled, the economic limits of production began to be reached in some sections; more important were such factors as the disappearance of good free land, the movement into the cities, the mounting cost of living, the pursuit of pleasure, and the growing independence of women. The birth rate has stead-

THE POPULATION OF THE UNITED STATES, 1860-1940*						
<i>Date</i>	<i>White</i>	<i>Negro</i>	<i>Total</i>	<i>Immigra- tion during decade ending with year</i>	<i>Percentage of growth of population during dec- ade ending with year</i>	<i>Percentage of total in towns of 8000 in- habitants or over</i>
1860	26,991,491	4,441,830	31,443,321	2,598,214	35.6	16.1
1870	34,337,292	5,392,192	39,818,449	2,314,824	26.6	20.9
1880	43,402,970	6,580,793	50,155,783	2,812,191	26.0	22.6
1890	55,166,184	7,903,572	63,069,756	5,246,613	24.9	29.2
1900	66,990,788	8,833,994	76,303,387	3,844,359	20.7	32.9
1910	81,736,957	9,827,763	91,972,266	8,796,308	21.0	38.7
1920	94,820,915	10,889,705	105,710,620	5,705,811	14.9	43.8
1930	108,864,207	11,891,143	122,775,046	4,107,209	16.1†	49.1
1940	118,213,287	12,865,518	131,669,275	528,431	7.2	—

* The column labeled "Total" contains a small number of Indians, Japanese, Chinese, and others who are not comprised in either of the two preceding columns. The population for 1870 is the corrected figure given in the census of 1910, as the census of 1870 was erroneous.

† Owing to the change of the census-taking date from January 1 to April 1 this figure is somewhat distorted. The census bureau has recalculated two decades on the basis of 120 months each, which gives 15.3 for 1920 and 15.7 for 1930.

ily fallen until in 1940 it was 18 per 1000. On the other hand the death rate has been cut down even faster, from 19.8 in 1880 to 10.8 in 1940. Thus, in spite of a rapid fall in the birth rate, the growth of the population has continued.

In the second place, another significant change occurred which is not reflected in the statistics given, but which deserves note. The rate of growth of the native white population steadily declined until it fell below that of the foreign born; that is to say, of the additions to the population through immigration. Francis A. Walker, superintendent of the tenth census, reached the conclusion that in the long run immigration had not increased the population of the United States, but had merely "replaced native by foreign stock." On the other hand, it may be noted, in the third place, that the increase of the Negroes has not, until recently, been as rapid as that of the white population; between 1860 and 1940 the former multiplied about three times and the latter over four. However, the 1940 census reveals that at

the present rate whites would fail to reproduce themselves by 5 per cent each generation and non-whites would gain by 7 per cent.

Still a fourth change which has made itself apparent in recent years is the aging of the population owing to the declining birth rate and virtual cessation of immigration. In 1850 over one-half the population was under 20 years of age, only about 14 per cent were over 45, and a person over 65 was almost a rarity. By 1930 under 40 per cent of the population was below 20, nearly one-quarter were over 45, and many of those over 65 were about to organize politically to secure old age pensions. If the trend continues, it is estimated that by 1980 only one-quarter would be under 20, nearly 40 per cent over 45, and 14 per cent over 65. However, throughout, the most productive age of 20 to 44 has remained the same percentage. Such a shift in age groups is already beginning to necessitate adjustments: for example, enrollment in elementary schools has begun to decline. It has been only half-jokingly suggested that in the future the market for wheel chairs may outsell that for perambulators, doctors will find more business if they specialize in cardiac diseases instead of obstetrics, and the country will show the effects of the conservatism of age and of the loss of youth's daring.

Finally, in spite of the fact that the population is more than one hundred and thirty million, this country must be regarded as but thinly settled when compared with the states of Europe. If the United States had been as densely populated in 1930 as France had it would have had a population of 560,000,000, while if it had had as many people per square mile as Germany it would have had 1,065,000,000.

The changes thus far enumerated have to do with the growth and composition of the population, but other movements and regroupings were taking place. The geographical shift from East to West had not wholly spent itself, and caused the western states and particularly those on the Pacific coast to grow more rapidly than those to the east or south. There was, however, a backwash to industrial centers like Detroit and Pittsburgh, and the new manufacturing districts of the South expanded greatly. For part

of this period, too, there was a steady drift of Negroes from southern plantations to northern mills and factories ; this was especially marked after 1910, but the panic of 1929 sent them south again in droves. Perhaps the most striking shift in the distribution of the population came about through the growth of large cities, which absorbed the major portion of the immigrants and in some states even occasioned a decrease in the rural population. While the movement from country to city is nationwide in scope, it proceeded most rapidly in the industrial states, and tended to swell the size of the largest commercial and manufacturing centers ; nearly one-third of the population in 1940 lived in 96 cities of over 100,000 inhabitants and almost one-half in towns of over 10,000. Industrial factors alone, however, do not explain the popularity of Miami and Washington, D. C., the fastest growing cities in the decade ending with 1940.

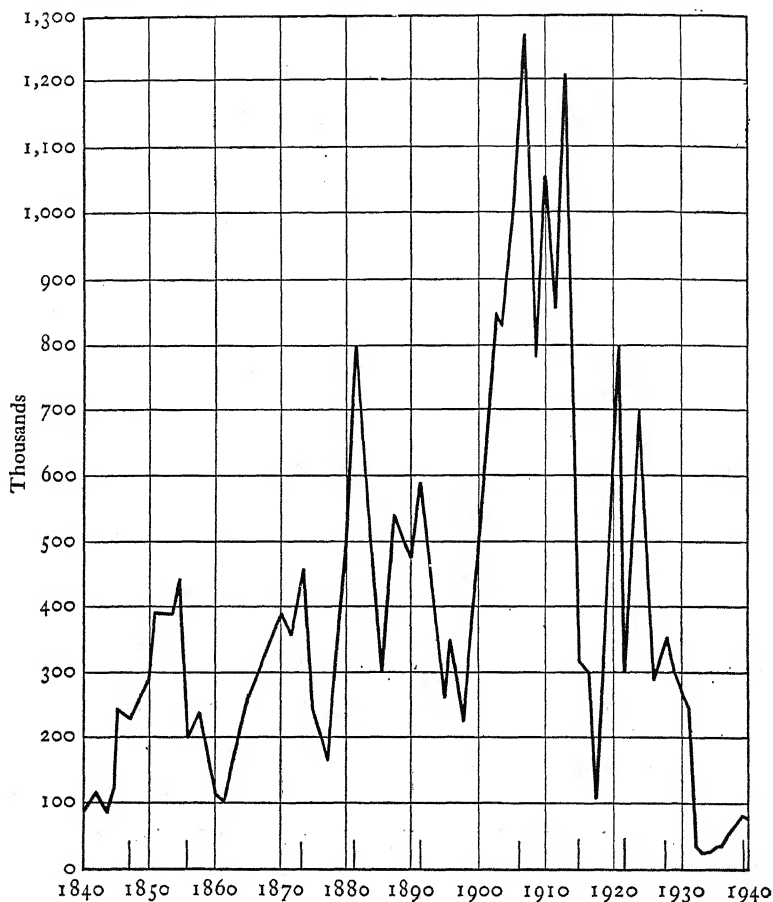
The immigration problem.— The industrial problems of this period were greatly affected by the rapidity of immigration. During the Civil War immigration declined, but soon after its close was renewed with increased vigor. In 1864 an act had been passed by Congress "to encourage immigration," according to which laborers might be engaged under contract in foreign countries, their wages being pledged in advance to pay for their transportation. This law was repealed after four years, but the business prosperity of the period of 1867-1872 proved even more potent in attracting immigrants to this country. The need for laborers was great in every line of industry ; the western states were establishing immigration bureaus to aid foreigners to come and settle with them ; agents of ocean steamship lines began to compete vigorously for this developing traffic, advertisements were inserted in foreign newspapers, rates were cheapened, and an immense stimulus was given to the immigration movement. The flow was temporarily checked by the crisis of 1873 and the resulting depression, but in 1882 it reached the huge number of 789,000, a figure not equaled for twenty years thereafter. A new record was set again in 1907 with 1,285,000 arrivals, but since 1915 immigration has remained on a much lower level. The incoming tide of labor rose and fell, as the westward movement had done fifty years earlier,

in correspondence with periods of prosperity and depression. This is shown in the graph on page 742.

Owing to the great industrial expansion of the country this large addition to the labor force—for the majority of the immigrants were in the most productive ages—was successfully absorbed. The settlement of the West, which, however, was effected chiefly by native stock, the building of railroads, the development of the iron and steel industries, all called for large supplies of skilled and unskilled labor. Had it not been for the great addition to our population by immigration, the industrial expansion of this period could not have proceeded as rapidly as it did, for the opening up of the West drew off thousands of native Americans and left a gap in the labor supply which must have checked the growing manufactures had it not been filled by the immigrants. The improvements in the iron and steel, the boot and shoe, and other industries, and the introduction of the semi-automatic machinery, made it possible to draft relatively unskilled labor into the factories, and also led to a considerable concentration of immigrant labor in these industries. As a result of its absorption to a large extent in industrial establishments there went on at the same time a more than proportionate growth of the population living in cities. This was especially true of immigrants, partly because there they found friends and opportunity for immediate employment, and partly because more of them began to come from cities in Europe than was formerly the case. This concentration in the large cities, and within these in distinct quarters, led to congestion, overcrowding, and a lowering of the standard of living. It has complicated, moreover, the problem of cultural transfer, for adaptation is more difficult under urban than under rural conditions. Although the foreign-born made up only 11 per cent of the total population in 1930, they constituted over 33 per cent of the residents in cities of over 500,000 inhabitants.

Up to about 1880 almost nine-tenths of the immigrants were from Germany, Ireland, Great Britain, Canada, Norway, Sweden, and Denmark, and were vigorous, thrifty, quick to learn, and easily assimilated. They are frequently described as the "old immigration." On the whole, however,

FOREIGN IMMIGRATION TO THE UNITED STATES, 1840-1940



The short vertical lines at the bottom indicate a panic preceded by prosperity and followed by depression. The major panics occurred in 1847, 1857, 1873, 1884, 1893, 1896, 1907, 1914, 1921, 1929, 1938.

they were mostly unskilled laborers and took the lower places in the industrial system, while the native workers moved up into higher ones. During the next forty years the character of immigration greatly changed, large numbers coming from Austria-Hungary, Russia, Poland, and Italy. They are often referred to as the "new immigration." Although these peoples from southeastern Europe were hard working and thrifty, they were generally unskilled workers or at least

unacquainted with machine methods, they had lower standards of living, and they were unfamiliar with democratic government. Many of them, moreover, were mere sojourners and expected to return to the land of their birth with their savings after a temporary stay in this country ; thus in the period from 1902 to 1924 almost two-thirds (62.8 per cent) of the Italian emigrants were repatriated. But of the Jews, who had fled here to escape persecution, it is estimated that only 5 per cent returned home. The presence of this large unassimilated element in the population also led to a racial stratification which complicated the trade union movement by making common action more difficult. On all these counts they were therefore more difficult to amalgamate with the native population, and their presence created new problems. The most recent element in the melting pot is the Mexicans, who streamed across the border in ever-increasing numbers during the 1920's to take the place of the declining European immigration.

Restrictive legislation.—As problems have arisen in connection with immigration, restrictive legislation has from time to time been passed, usually as the result of demands by organized labor. The earliest laws regulating immigration were passed by the states of New York, Massachusetts, and California, but these were declared unconstitutional in 1876. The first restrictive federal legislation was an act passed in 1882 limiting Chinese immigration for ten years ; two years later the restriction was made absolute. In 1882 also a law was passed forbidding the landing of convicts, idiots, lunatics, and persons liable to become public charges, and requiring their return at the expense of the ship which brought them here. In 1885, under pressure from the Knights of Labor, the importation of contract labor was forbidden. There were marked similarities between the colonial system of indentured servitude and the nineteenth century system of contract labor, but the more crowded condition of the labor market, the disappearance of cheap land, and the vigorous voice of organized labor now altered the public's outlook. The feeling grew in labor circles that the presence in the United States of a large supply of low-priced labor with low standards of living had checked increases in wages and had exer-

cised a depressing influence upon the higher wages and standard of living of the American laborer. Labor therefore asked for protection against these low-standard laborers just as the manufacturers had demanded protection against their products, and with almost as great success.

In response to this demand legislation was passed which did not merely exclude undesirable persons, but restricted all immigration in the belief that unchecked immigration constituted a menace to American institutions. The head tax upon each immigrant when admitted into this country was gradually raised from 50 cents to \$8 in 1917. In 1921 for the first time an absolute limitation upon immigration was imposed; the so-called "quota" law restricted the yearly immigration of any nationality to 3 per cent of the number of such persons resident in the United States in 1910. The reasons which led to this legislation seem to have been, first, the fear of a flood of emigration to this country as a result of the efforts of European citizens to escape the heavy taxes and hard living conditions in their homes which resulted from the war; second, the fear on the part of organized labor that the standard of wages would thereby be lowered, especially in view of the widespread unemployment in the United States at the time; and third, the presence here, as disclosed by World War I, of some 10,000,000 unnaturalized aliens, whose Americanization seemed necessary before further additions were permitted. Another act of 1924 still further reduced the quota by changing the apportionment to 2 per cent of any nationality residing here in 1890, and by forbidding the immigration of Japanese. The last ungracious provision was deeply resented by the Japanese and was hardly necessary since virtually the same end could have been accomplished under the quota system.

The "national origins" provision of the act of 1924 assumed superiority of the "Nordic" race and therefore sought to limit the non-Nordic immigration; the total immigration under this law was limited to 150,000 annually and immigration from Great Britain was favored by selecting 1890 as the base year. The law was slightly modified in 1927, but not essentially changed, by making the population of 1920 the base. This legislation did not apply to our neigh-

bors in the Americas. The average annual immigration was reduced to 410,721 for the decade ending in 1930, and to 52,843 for that ending in 1940. Moreover, almost as many emigrants departed in this period. The original idealism, which asserted that America has "room about her hearth for all mankind," has evidently come to an end.

A generation ago the United States with its many immigrants had a more than normal percentage of its population in the productive age group of 20 to 44 who emigrate most readily. However, this valuable element consisted chiefly of unskilled workers. The aristocracy of the working class are the skilled workers, usually native whites, who can most clearly benefit themselves and sometimes their fellow workers by organizing into unions.

✓ **The American Federation of Labor.**—The outstanding labor organization during the last generation has been the American Federation of Labor which in 1914 practically stood alone except for the Railway Brotherhoods. At that time it consisted of 110 national and international unions plus numerous state, city, and local unions, the membership totaling 2,000,000. The A. F. of L. was essentially a skilled white man's organization; in other words, it had very few Negro or women members and only a small number of unskilled. Most of the national unions were built on individual skills like that of bookbinder, cooper, switchman, or on an amalgamation of similar skills like the Amalgamated Association of Iron, Steel, and Tin Workers.

World War I and labor.—The period of World War I was one of tremendous opportunity for organized labor and unions prospered accordingly. By 1920 the membership of the A. F. of L. had almost exactly doubled, although the number of constituent national and international unions remained the same. The A. F. of L. announced in 1917, "This is labor's war. It must be won by labor and every stage in the fighting and final victory must be made to count for humanity." But at the same time the labor leaders warned that in all previous conflicts labor had been stripped of its defenses against capital under the guise of national defense, that this time labor should be given representation on the important councils of national defense and "the govern-

ment must recognize the organized labor movement as the agency through which it must cooperate with wage earners." Furthermore "service in government factories and private establishments and transportation agencies all should conform to trade union standards." Many of these aims were substantially accomplished: President Samuel Gompers of the A. F. of L., who was already on the National Council of Defense, was appointed to the War Labor Board and the A. F. of L. was given representation on the Emergency Construction Board, Food Administration Board, and War Industries Board, to name just a few. The recognition of union standards was gained first in the railway industry and in government work and then extended to other employments. Labor kept the right to organize, virtually won the eight-hour day, equal pay for women, and recognition of union standards, but gave up restriction of output and to a considerable extent the right to strike. Employer opposition to organized labor fell off. Employers needed more workers to fill their many orders, they were relieved of much of the anti-trust regulation, and they no longer faced the necessity of meeting a competitive price because many goods were sold to the government on a basis of cost plus 10 per cent. Membership in machinist unions doubled, that of boiler-makers and electrical workers tripled, and that of railway clerks increased tenfold. When the war ended, organized labor was proud of its record and accomplishments and expected the good times to continue.

Post-war readjustments.—More than a year of prosperity followed the Armistice. During it one after another war board was discontinued, returning soldiers were demobilized, the cost of living soared, and a few severe strikes broke out in some of the heavy industries like steel, railroads, and coal. As conditions returned to "normalcy," business leaders determined to rid themselves of the labor organizations that had mushroomed in their plants. A short but severe post-war depression beginning in mid-1920 facilitated this weeding out program. No longer did the government interpose to maintain a basic eight-hour day, to protect union standards or to uphold the right to organize non-union employees. Labor received a rude awakening. A steel strike in 1919

was broken, an anti-bolshevist hysteria swept the country, and an open shop drive begun by two leading employer associations achieved startling success. Kansas went so far as to forbid strikes and require arbitration in business "affected with a public interest." Between 1920 and 1923 A. F. of L. membership declined from 4,100,000 to 2,800,000.

The decade of the 1920's is associated with prosperity, but it was the employers not the unions that prospered. A. F. of L. membership remained stationary after 1923. There were several reasons for this. The high money and real wages prevailing blinded workers to the necessity of organizing. Even many union officials were content to let well enough alone and enjoy a comfortable white collar class existence. In the South organizing campaigns were often based on the policy of securing the good will of employers. Meanwhile, employers became more and more powerful as corporations merged into larger business units. Strenuous efforts were made to keep the workers happy, and often the simple method of fair treatment was adopted, but the unions were generally feared. Shrewd and effective policies were devised in dealing with them. On the one hand welfare measures including everything from athletic fields to pension plans and profit-sharing encouraged the workers to be loyal to their companies; on the other, legal restraints such as threatened anti-trust prosecutions, injunctions, "yellow-dog" contracts, or harsh practices like the use of labor spies and the discharge of union members frightened workers and made the task of the union difficult. Many industries set up company unions which lacked strike funds and of course independent leadership. On top of all this technological changes were every year making it easier to substitute the combination of machines and unskilled workers for various skills.

The Great Depression.—The economic collapse that began in 1929 witnessed a rapid decline not only in the strength of unions—A. F. of L. membership fell from 2,900,000 in 1929 to 2,100,000 in 1933—but in the workers' standard of living. Three dependable authorities estimate that by 1932-1933 one out of every three workers was without a job, and of course many of these had to lean upon relatives

and friends fortunate to have kept theirs. Bread lines appeared in cities and, although strikes were infrequent, mass discontent grew steadily. The Hoover administration was largely a political victim of these economic circumstances.

The advent of Franklin D. Roosevelt's "New Deal" coincided roughly with an upturn in business recovery and the two greatly stimulated organized labor. Famous Section 7-A of the National Industrial Recovery Act of 1933 granted workers "the right to organize and bargain collectively through representatives of their own choosing" and added that "no employee and no one seeking employment should be required as a condition of employment to join any company union or refrain from joining, organizing or assisting a labor organization of his own choosing." A. F. of L. membership rose to 3,400,000 in 1937, the highest since 1921. But unions organized by industries gained 132 per cent while those built on craft lines rose only 13 per cent between 1933 and 1935. Leaders of industrial unions like the United Mine Workers and various garment unions became impatient with the plodding and unimaginative tactics of the more numerous craft organizations. Even more they resented attempts of craft unions to apportion members of newly formed industrial unions among themselves, or refusals to organize at all if it had to be along industrial lines. William Green, president of the A. F. of L., told Gerard Swope, head of the General Electric Company, that the A. F. of L. would not organize workers in that company unless it could divide them into fifteen separate crafts. It was out of such conflicts over union structure that the Committee for Industrial Organization sprang.

The Committee for Industrial Organization.—The C. I. O. came into being when the majority of the A. F. of L. delegates at the annual convention in Atlantic City in 1935 voted against the organization of workers along industrial lines in mass production industries. A large and militant minority founded the C. I. O. on November 9, 1935, with seven unions and one million members. John L. Lewis, head of the United Mine Workers, the largest constituent union, became president. Most of the other unions were from the textile trade. Partisans of craft and industrial

organizations hurled arguments at American labor and the public for many more months. The A. F. of L. leaders shouted that the C. I. O. leaders were guilty of dual unionism, a high form of labor treason because it means divided forces where there should be a united front before the employer. The C. I. O. leaders replied that the reactionary element in the A. F. of L. was itself guilty for prohibiting industrial unionism and would rather wreck organized labor than lose control. Craft organization was archaic in a factory economy, they insisted, and was the reason why only one-tenth of the working population was enrolled in unions after two generations of the A. F. of L. Within another two years the C. I. O. had partially organized the automobile, steel, oil, and rubber industries and boasted 32 unions and 3,700,000 members. In 1938 it adopted the new name of Congress of Industrial Organizations. But the favorable attitude of government, improving economic conditions, and the stimulus of competition also led to an increase of 800,000 in the A. F. of L. ranks.

Independent unions.—Not all members of unions belong to either the A. F. of L. or the C. I. O. ; since 1914 approximately one in five has not, although by 1937 the percentage was down to one in twelve. Most famous of the independent unions are the Big Four Railway Brotherhoods: the engineers, firemen, conductors, and trainmen, who are sometimes referred to as the "aristocracy of American unionism" because of their conservatism, the high caliber of the men, the age of their organizations, and their independence of the rest of the labor movement. Other railway workers have independent unions, as do also a few groups in manufacturing and a considerable number of workers in the government service, particularly in the post office department. Finally there is the once notorious Industrial Workers of the World, not yet defunct but deathly ill.

Weapons of capital and labor.—It seems true in industrial conflict just as it is in actual warfare that for every new weapon of offense an adequate defense is soon devised. Nearly every labor tactic has been countered with a similar one invented by capital. Unions and employer associations were created about the same time. The counterpart of the

strike is the lockout, which occurs when an employer foresees trouble and shuts down his plant to force an agreement from the union while it is still unprepared. Picketing a store or plant may be very effective at times in informing actual customers or discouraging "scab" workers, but on the other hand the employer is probably better situated to state his case to the public through the press, which may be dependent on his advertising. Sabotage in one of its early meanings of working slowly has as its opposite the stretch-out—making the assembly line move faster or requiring a worker to tend, say, more looms. The secondary boycott was for a while illegal and is now outmoded, but so also is the employer's blacklist, although probably to a lesser degree. The threat of a closed shop can be met with that of an anti-union open shop. Employers fear professional agitators and organizers and union members live in terror of the labor spy kept by the boss. The company will often suffer the destruction of some property when a strike occurs and the employees know that strike-breakers may destroy their chances of winning higher pay, or "scabs" may even take over their jobs. The court injunction has been a powerful weapon in the past in the hands of the employer, but a union is difficult to sue effectively and its leaders are probably less dependable in keeping their bargains than is the employer. The employer usually has a greater supply of capital, hence more staying power, and until recently this fact has undoubtedly given him a distinct advantage. On the other hand the worker has now discovered that he can outvote his opponent and during the last decade has gained much with this new weapon. There is of course no way to add up all the advantages of either side, but a mere recital of them would suggest that the conflict is far from one-sided. It does not follow that all these practices should be tolerated—some on each side are vicious—so it would seem that if economic bargaining and conflict are inevitable then the public should try to establish and enforce a decent set of rules.

Strikes.—Strikes are most likely to be successful in times of business prosperity because the employers have many orders to fill, are making a profit, and will make concessions to

avoid interruptions. Any prosperous period ends eventually in a crash of major or minor proportions after which business leaders have to lay off workers and reduce wages. Attempts by unions to prevent such natural economies usually meet with small success. Union membership tends to decline during a depression period because the men are out of jobs, need their dues money, and feel the union can do little for them. Strikes are few because the men see the business is struggling to keep on its feet, there are thousands anxious to get jobs, and they have little to gain and much to lose. But as business begins to recover—for all depressions also end—unions become stronger again, strikes more frequent and successful. Recovery merges into prosperity, the business cycle is complete and ready to start again, only, of course, no two cycles are exactly alike, and there are exceptions to these tendencies.

The war and post-war period of 1916–1921 was prosperous except for the last year. It produced an average of 3500 strikes a year of a month's duration and involved 10 per cent of the industrial wage-earners of the country. Probably, it was the most troublous period in our labor history. The decade of the 1920's was also a prosperous period, but not one of rapidly rising prices, and consequently the numbers of strikes and of men involved declined about one-third. During the succeeding depression there were half as many strikes and industrial workers involved as there were in the prosperous 1920's. Following the advent of the "New Deal," strikes increased until the peak year of 1937 when the figure for strikes and industrial workers taking part were nearly as great as during the World War I period. This was unusual because business was merely recovering and prosperity had not yet been attained. It is probably explainable on the grounds that the government was sympathetic to organized labor's aspirations and had passed favorable legislation, that organized labor was anxious to take advantage of the opportunity to expand its membership, and that employers were contesting laws they considered harsh. Support is lent to this thesis by the fact that many of the strikes occurred because employers would not recognize the unions.

Of the many significant strikes that have taken place in

the last generation three in particular stand out ; namely, the threatened railroad strike of 1916, the steel strike of 1919, and the automobile strike of 1937.¹

Early in 1916 the leaders of the four railroad brotherhoods submitted to the managers of 458 railroads their demand for the eight-hour day and half-pay extra for overtime. The managers replied that it was impossible to fit the average run to an eight-hour schedule and that the unions were exploiting the popularity of the eight-hour day to secure a wage raise. Neither side would make any appreciable concession and a strike was scheduled for September 4, 1916. Three days before that date President Wilson addressed Congress in person and requested an eight-hour law for railway transportation employees. A law known as the Adamson Act was rushed through both houses and signed on September 3, which promised the eight-hour day January 1, 1917. The railroads promptly secured an injunction against its enforcement and the case was hurried to the Supreme Court. In March, 1917, with the country on the verge of war, the railway employees demanded the eight-hour day immediately, regardless of the Court's decision. This time the managers surrendered, and the next day the Court upheld the Adamson Act by a 5 to 4 decision. Enemies of organized labor frequently cite this episode as an example of the abuse by union labor of its power, a viewpoint worth considering.

Quite different were the setting and outcome of the great steel strike. During the war period the industry expanded enormously and made huge profits. Two-thirds of the workers were unskilled, or at best semi-skilled, many of them immigrants contemptuously referred to as "hunkies." Much of the work has been aptly described as "hot, noisy, heavy and dangerous," the pay was not above the market rate for that type of labor, and the hours were exceedingly long—twelve hours a day seven days a week and a twenty-four-hour stretch twice a month were common though not the maximum. In 1918 a National Committee for the Organizing of the Iron and Steel Workers with a member from

¹ Other important ones were the coal strike of 1919, the meat-packing strike of 1921, the shopmen's strike of 1922, and the "Little Steel" strike of 1937.

each of twenty-four national and international unions was drawn up with William Z. Foster as secretary and guiding spirit. Foster originally hoped to conduct a whirlwind organizing campaign, call a strike, and under the pressure of war conditions force the industry to capitulate. But preparations involving co-operation among twenty-four unions took time, and attempts to negotiate with the steel magnates took more time, so that it was not until September 22, 1919, that the strike was called and over 300,000 men quit work, crippling almost every steel mill in the country. The unions demanded recognition, the eight-hour day, reinstatement of men discharged for union membership or activities, and other concessions. But the time for a successful strike had passed; the war was over, government boards were being dismantled, and there was an anti-radical sentiment in the air. The steel managers refused to be cowed, they imported strike-breakers, propagandized Foster's radical past—he had been a syndicalist—and won over thousands of deserters. By January two-thirds of the men had gone back to work and the lost strike was called off. The steel strike proved that organized labor was still no match for the steel industry, partly because of the ignorant and unskilled type of worker involved, partly because of divided and timid leadership in the unions. Yet the great effort was not without beneficial results. The long working hours were publicized continuously until one company and then another adopted the eight-hour-shift system after 1923.

The almost spontaneous strike in 1937 against the General Motors Corporation is best known for its successful large scale use of the sit-down technique. Most of the workers in the automobile industry were barely semi-skilled, since four jobs out of five could be learned in two weeks' time. But life on the assembly line was dull, tedious, and very wearing; some were unable to stand the pace which they claimed was constantly being speeded up. Although the pay was at times high on a per diem basis, work was not steady and the yearly wage was not high. Furthermore, numerous labor spies made organization hazardous, and company policy based on the strategy of "divide and rule" encouraged dissension among the unions that did exist. After the "New Deal"

began, the United Automobile Workers, which was at first an A. F. of L. industrial union, grew in power, then deserted to the C. I. O., put on a vigorous organizing campaign under the leadership of Homer Martin, and in December, 1936, endeavored to negotiate with company officials for recognition and certain concessions. When the officials refused to negotiate, the strike began at a Fisher Body plant and spread. The workers sat down in the factories and refused to move, their attitude being that they were protecting their jobs. The corporation of course stressed that the men were trespassing, often destroying property, and preventing the operation of valuable equipment whose enforced idleness was very costly. A court order was secured ordering the men to vacate, but was not enforced largely owing to Governor Murphy of Michigan, who feared there would be bloodshed. Instead, he tried desperately to secure an amicable settlement and at last succeeded. The strike was won: the union achieved recognition, a survey of speed-up abuses was agreed to, time and one-half for overtime was to prevail, and there was to be no discrimination against unionists. Much may be said against the legality of the sit-down, but it was effective and it was copied. It gave the workers companionship in an hour of uncertainty and kept them mobilized. The great danger was its abuse to the point of public exasperation, a fact which has since caused some labor leaders to discountenance it and a number of states to outlaw it.

Strikes in war industries slow up the war production program and are today a matter of real concern. The number of strikes declined in 1940 over 1939 and involved only half as many workers, but 1941 witnessed a sharp increase in strikes called, men involved, and work-time lost. Following the attack on Pearl Harbor strikes fell off noticeably for about two months. Renewed labor unrest later in 1942 stirred Congress to discuss ways and means of eliminating strikes in war-time and also suspension of the basic forty-hour week. It was becoming increasingly apparent that certain rights and privileges would have to be sacrificed temporarily if basic liberties were to be preserved.

Wages.—The trend in real wages for the laboring population as a whole between 1914 and 1928 was distinctly up-

ward, especially during the prosperous 1920's. This was followed by a drop during the depression years of 1930 to 1933, but after that conditions improved, and the nation's working population partially made up for recent losses. These bald statements require further explanation. In chapter XXII three methods of measuring labor's income were discussed, hourly wages, average annual earnings of employed workers, and average annual earnings of active members of the working class, and it was pointed out that these should be related to the cost of living to obtain figures of real wages. The statistics of Paul Douglas on some of these are available to 1926 and are quoted in part in the accompanying table. They show that the real wages of men engaged in transportation and manufacturing rose noticeably during the World War I period despite the inflation, which usually has a tendency to lower real wages. Other groups that gained were coal miners, unskilled laborers, and farm hands; those who lost were chiefly white collar groups,

INDEX NUMBERS OF REAL WAGES*				
(1914 = 100)				
<i>Year</i>	<i>Hourly earnings, manufacturing</i>	<i>Annual earnings, manufacturing</i>	<i>Annual earnings, land transportation</i>	<i>Annual earnings manuf., trans., coal mining. Allowing for unemployment</i>
1914	100	100	100	100
1915	102	100	102	102
1916	105	105	109	115
1917	99	104	124	114
1918	102	108	175	120
1919	107	112	190	120
1920	111	114	227	123
1921	120	115	205	105
1922	122	120	199	114
1923	129	128	200	137
1924	131	127	199	130
1925	131	128	202	134
1926	130	130	204	138

* P. H. Douglas, *Real Wages in the United States, 1890-1926* (New York, 1930), 108, 246, 325, and 468. Courtesy of Professor Douglas and of Houghton Mifflin Co.

teachers, ministers, and workers in the building trades. Following the war all but the coal miners, unskilled workers, and farm hands gained, some like the teachers and building trades workers being especially fortunate.

Wage data for the decade of the 1930's are less reliable and sometimes conflicting, but Millis and Montgomery are of the opinion that employed workers were better off in 1933 than in 1929 because of the rapid decline in the cost of living. However, since millions were unemployed and many others only partially employed, the working population as a whole was definitely in a worse position. This was improved by 1936 if real weekly earnings are taken as the standard, but because employment was still sub-normal, the worker was in a poorer position than in the very prosperous year of 1929. Since 1936 his condition has improved steadily with the exception of a brief lapse in 1938. Recently, as war production has increased, the problem of unemployment has virtually disappeared and labor's bargaining strength has grown.

AVERAGE REAL WEEKLY WAGES IN MANUFACTURING INDUSTRIES, 1923-1940*			
(1923-25 = 100)			
<i>Year</i>	<i>Index</i>	<i>Year</i>	<i>Index</i>
1923	100.2	1934	96.0
1925	99.6	1935	103.3
1927	102.3	1936	110.8
1929	104.7	1937	118.0
1931	98.4	1938	109.4
1932	88.9	1939	120.1
1933	91.3	1940	126.8

* *Statistical Abstract of the United States*, 1941 (Washington, 1942), 370, quoting Bureau of Labor Statistics figures.

Since methods of production were continually improving in efficiency and the national income was increasing, it was to be expected that the worker's real wages would rise. But has labor received its fair share of the improvement? Millis and Montgomery have attempted to answer this difficult question. By comparing the per capita income of the nation

with the real wages of wage-earners and making allowance for unemployment as far as possible, they arrived at the conclusion that wage-earners' gains were considerably less than proportionate between 1870 and 1900, that the lag was less pronounced between 1900 and 1929, that because of unemployment it widened in the depression years of 1930 to 1933, but that wage-earners made a partial recovery in the next four years. To the question of whether this less than proportionate gain was labor's fair share, it should be pointed out that since much of the increased productivity of labor was owing to more and better equipment—that is, to capital—it would be very surprising if labor's per capita real income did keep pace because that would leave virtually nothing to reward the capitalist for saving.² Other explanations for the lag in labor's share are the greater expense in advertising and marketing, the increased scarcity of land, and the fact that more of labor's income comes nowadays in the form of free income or services from the government. In conclusion then, the lag in the amount of income falling to labor is probably less unfair than might be thought and perhaps not unfair at all.

Hours and working conditions.—Nearly every decade of the last century has seen some improvement in working conditions in mill and factory as well as a lessening of the hours of toil so that the worker may have more leisure. In 1915, the nine-hour day was the average for all industry, although the worker in unionized manufacturing industries enjoyed a work-week that was less than this average and a good day shorter than that of his non-unionized brother. The war period witnessed about one-half a day's reduction in hours, more in the non-unionized fields than in the unionized. During the prosperous 1920's Saturday half-holidays became more common; in fact, in the building trades, which have often led the way, the five-day week prevailed, and the very long hours in the steel industry were reduced. The depression necessitated spreading the work among the workers to some extent, but this lessening of hours was accompanied by sharing the payroll. It was not until the advent

² For a discussion of this theory and a criticism of it see H. A. Millis and R. E. Montgomery, *Labor's Progress and Problems* (New York, 1938), chap. 4.

of the N.I.R.A. and its codes that the shorter work-day with undiminished pay came into vogue again. Half of the employees under N.I.R.A. enjoyed the basic forty-hour week, and only 7 per cent had to work more than forty-eight hours a week. Still more recently the Fair Labor Standards Act of 1938 has provided that after 1940 the forty-hour week should be basic in all industries shipping goods in interstate commerce. And there has in recent years been strong agitation for the thirty-hour week, which may be a herald of the future after the war. Thus far most reductions in the work-week have been accompanied by the claim that rested men worked more efficiently and produced as much as before. Employers have often speeded up operations to maintain the old rate of total output. Obviously, the work-week cannot be shortened indefinitely without a lowering of the standard of living.

Working conditions have improved in countless minor and major ways in the last generation. Progress in lighting, ventilation, lubrication and shock-absorption techniques, the substitution of electric for steam power, improved lunch-room, rest-room, and dispensary facilities, and increased use of safety devices, such as caging of exposed and dangerous machine parts, have all helped to eliminate much of the risk and unpleasantness of factory work. Death injuries to operatives in the steel industry declined 74 per cent between 1910 and 1927 and were cut to less than one-quarter in the railroad industry between 1917 and 1924. But there is still enormous room for improvement. Although many states had reasonable factory inspection laws, the enforcement provisions were inadequate in most. It is estimated that four miners are killed for every million tons of coal mined and four workers are killed and fifteen injured for every million locomotive miles. Mr. H. W. Heinrich of the Travelers Accident Insurance Company claimed in 1931 that accidents represented an annual cost of 11 per cent on workers' incomes and that at least 88 per cent of accidents were preventable.³ In addition to accidents there has been the menace of occupational diseases and ailments, such as tuberculosis in

³ Quoted in C. Daugherty, *Labor Problems in American Industry* (New York, 1938), 108.

the very dusty or humid trades, lead poisoning among painters, "hatter shakes" (from mercury) among makers of felt hats, and the "brass chills" (from zinc fumes) among workers in brass foundries, to name just a few. The Metropolitan Life Insurance Company's statisticians estimated in 1930 that the industrial worker had a shorter than average life expectancy because of the hazards of his occupation.

Women and children in industry.—A woman is usually at a disadvantage when she works for a living. She has less bargaining strength because she often regards her job as a temporary occupation until she marries, or thinks of it as an opportunity to supplement the family income. Also because she is probably more individualistic than the male of the species, she is poor material to organize into unions. Since her work for the day often is not done when the five o'clock whistle blows, and also for physiological reasons, she must save her strength. The family and society's welfare require her protection and it has fallen to the legislature to provide it. By 1938 all but four states had some kind of hour laws for women, the most common being a maximum of forty-eight or fifty-four; night work was prohibited in twenty states, and the matter of rest periods was receiving attention.

Child labor has been associated with the industrial revolution from the beginning, but it has little social justification particularly in a democracy, whose success depends so much on adequate education. Child labor reached its peak between 1890 and 1910 when over 18 per cent of the children of working age were employed, over one-third of them girls. Since then the number has fallen until in 1930 it was under 5 per cent. It is in agriculture, especially in the southern states, that child labor is most prevalent, but it is also common in domestic and personal service and in manufacturing. Most of the child laborers have been of native white parentage. Although their real wages were noticeably better in 1923 than in 1899, they were still pitifully meager. Their hours of work have tended to average from forty-four to forty-eight a week and because of the types of work in which they are employed the working conditions have been all too frequently sub-standard. Like women, children do not lend themselves to organization and must be protected by govern-

ment. By 1938 forty states had an eight-hour law for children under 15 working in factories and stores, and all but two prohibited night work in at least some occupations. But there was great lack of uniformity in the laws and only one-third of them were adequate. A strong federal law was badly needed. Three times Congress attempted to fill this need and three times the Supreme Court voided the law. Finally the Fair Labor Standards Act of 1938 forbade the employment of children under 16 in the production of goods shipped in interstate commerce if such employment interfered with their schooling, health, or well being, and this law has been upheld by the courts.

Security.—One of the most common desires of human beings is for security against the impact of unforeseen events. The working man would like to be able to predict economic disaster or personal injury as well as old age, but since he cannot do this the next best thing is to be prepared. Making ready for a rainy day costs money, and on a small income this necessarily requires much intelligence and more will power so that many families are completely at the mercy of the economic tide. Just as a child looks to his father for protection, the "common man" has been taught to look up to the federal government and the "New Deal" administration has fostered this attitude. Our interest is not in measuring the worry and hardship eliminated or the degree to which self-reliance has been atrophied, but in examining the programs of providing this greater security. In recent years the worker has been given more adequate protection against unemployment, against personal injury, and against a poverty-stricken old age.

According to the 1930 census, a man was definitely unemployed if he was "out of a job, able to work, and looking for a job." This did not include unemployables, idle rich, the sick, those with part-time employment or temporarily laid off without pay, and some other categories. The 1930 census showed 2,400,000 unemployed, a figure that was only about one-half the estimates given out by three competent organizations for that year, and which varied between 14 and 16 millions by March, 1933. During the last fifty years the number has ranged between 1 and 15 millions,

the greatest number in the depression periods of the last decade. Unemployment may be seasonal, such as among harvest workers, canners, and formerly in the automobile industry, or it may be secular as when new machines are introduced, such as the linotype, automatic bottle machines, or the McKay shoe machines, or it may be cyclical as when a depression necessitates curtailment of production. Of the three types, the cyclical has been far the most serious. Until the great depression of 1930-1933 the federal government did very little to relieve the plight of the unemployed; in fact, the vast outpourings of federal funds took place after the worst of this depression was over, nearly \$14,000 million being spent on unemployment relief between 1934 and 1939. Whether in the form of direct relief, work relief projects, or Civilian Conservation Corps camps for young men, the remedies were visualized originally as emergency measures.

Many experts accept unemployment as a misfortune along with other accidents, see no likelihood of eliminating it, and favor steps to spread the risk; that is, to ensure against it. Although attempts have been made by companies and by unions to ensure against unemployment, until recently this has not been done on a wide scale. Before the depression-ridden 1930's states were reluctant to impose such a program lest their industries be frightened away or be handicapped in competition. It remained for the federal government to undertake the responsibility, and this was done in 1935 with the passage of the Social Security Act. A basic purpose of this law, however, was to stimulate the states to pass laws of their own and by July, 1937, all states had such laws. The federal government got the funds by a payroll tax (3 per cent beginning in 1938) and allocated them as the Social Security Board saw fit, letting each state raise all or part of the 3 per cent by its own method of taxing employers and employees. In Illinois, for example, employers of six or more men were subject to a 2.7 per cent state payroll tax. There an employee was eligible for a benefit of half his weekly wages, but not over \$18 for a period of as much as twenty weeks after he had been out of work two weeks. In order to help the unemployed and lessen the drain on

funds, an effective employment agency is essential, and this machinery was provided in the United States Employment Service, created under the Wagner-Peyser Act of 1933.

The nightmare of being tossed out onto the "industrial scrap heap," the fear of spending his last years in the poor-house, the horror of a dependent old age, these and other worries have beset the worker for years. Non-governmental agencies have not been able to meet this problem. Only 15 unions had pension plans for their aged in 1937, most of which benefited only those unable to work; less than 15 per cent of the workers were protected by company pension plans. Arizona passed the first state old-age pension law in 1914, but it was declared unconstitutional and it was not until 1925 that Wisconsin enacted a successful one. Great Britain had enjoyed such a law since 1908 and was imitated by a number of other countries before this nation passed the Social Security Act in 1935. This provided not only the unemployment insurance explained above, but also financial assistance to states possessing adequate old-age plans of their own, and most important, it set up an enormous old-age insurance scheme. The funds were to be provided half by employers and half by employees, each to contribute equal small fractions of the payroll, increasing to 3 per cent each in 1949. After 1940 every eligible 65-year-old worker will receive between \$10 and \$56 a month and his family may be entitled to secondary benefits varying from \$20 to \$85. These are not large sums and the law is still faulty and will need numerous improvements. The essential fact, however, is that an old-age-pension system has been started at last.

A third type of security needed by the family breadwinner is protection against accidents. The modern theory has been that the cost of industrial accidents should be regarded as part of the cost of the product. Almost every state has either a compulsory or elective accident insurance law for employers yielding from 20 to 100 per cent compensation to employees.

Attitude of the courts.—Laws are rarely enacted until some time, often years, after they are needed, and this "social lag" is probably one of the prices of democracy. Even more conservative than the legislators are the judges

who interpret the laws and the constitution. Since they are often cautious elderly gentlemen, they do not approve all reforms, and their reasons are sometimes unconvincing. The attitude towards federal child labor legislation is illustrative. State laws restricting child labor varied markedly and were often inadequate, so Congress in 1916 endeavored to remedy the situation by a law forbidding the shipment in interstate commerce of products made by children working more than eight hours a day. The Supreme Court declared the law an improper use of the commerce clause and unconstitutional, although it had previously upheld similar laws forbidding the sale of lottery tickets in interstate commerce. Therefore, in 1919 Congress tried again, this time imposing a 10 per cent tax on the profits of companies employing child labor; but three years later the Supreme Court declared this law likewise unconstitutional because of improper use of the taxing power, although the taxing power had in the past been used to prevent the sale of oleomargarine colored to look like butter, certainly a lesser social evil.

Judicial resistance to social reforms weakened but little before the 1930's; in fact, it probably served the country well during the worst of the depression by nullifying much half-baked legislation, but after the unfulfilled threat to pack the Supreme Court in 1937 and the subsequent appointment of several "liberal" justices, the Court's intransigence disappeared.

The attitude of the Supreme Court on several points—namely, *hours*, minimum wages, freedom of contract, injunctions, secondary boycott, employers' liability and child labor—was discussed in a previous chapter. These will now be brought down to date. The Supreme Court upheld a California eight-hour law for women in 1915 and agreed that women and children were wards of the state and needed special looking after. Until recently men were regarded as able to care for themselves although a federal eight-hour railroad law was sustained in 1916 and also an Oregon ten-hour statute applying to men and women in factories. Finally, in 1941, the Court approved the provisions of the Fair Labor Standards Act making the forty-hour week basic for goods shipped in interstate commerce.

Women were denied the protection of *minimum wages* by state law in the famous *Adkins v. Children's Hospital* case of 1923 and again in 1936, largely on the ground that they might be deprived of property without due process of law if denied the right to work at any wage they could get. However, this view was at last overruled in 1937. Minimum wages for men were provided in N.I.R.A. codes of 1933 until that law was declared unconstitutional in 1935. They arrived more permanently with the passage of the Fair Labor Standards Act of 1938, upheld by the court in 1941.

Freedom of contract is necessarily involved in any discussion of wages and hours, but it covers more than that. For example, may a state prohibit the use of yellow-dog contracts in wage agreements? The Supreme Court said "No" in 1917, but in 1932 Congress tardily outlawed this type of contract by the Norris-LaGuardia Act. The *injunction* likewise remained a strong weapon in the hands of the employer. The Clayton Anti-trust Act of 1914 was at first thought to restrict its use, but the Supreme Court said that the statute merely repeated existing law and this remained the situation until the Norris-LaGuardia Act in 1932 specified what labor activities might or might not be enjoined. Twice, in 1937 and in 1938, the Supreme Court upheld the new law. Even the *secondary boycott*, which was decided to be illegal in the Danbury Hatters' Case in 1908, and long remained so despite an unsuccessful attempt to revive it in the Clayton Anti-trust Act, has probably been legalized again. Numerous laws have been passed in recent decades specifying or extending *employers' liability* for accidents happening to employees. Between 1918 and 1932 a dozen cases involving them reached the Supreme Court and all were upheld. It was apparent even to some of the conservative wing of the Court that industrial accidents should be regarded as a cost of the business. The Court's attitude toward *child labor* has already been described in part. Suffice it to say that for a brief period the N.I.R.A. substantially outlawed child labor, and the provisions in the Fair Labor Standards Act of 1938 forbidding the shipment of products made by child labor were upheld in 1941, the Court specifically overruling an earlier contrary decision. The most outstanding new type

of labor legislation, the *old-age pension* provisions of the Social Security Act were upheld by the Supreme Court in 1937. At present it would be startling news if any important "New Deal" legislation were overruled.

Conclusion.—The years since 1914 have witnessed two world wars, each of which afforded organized labor opportunities to improve its bargaining position and raised some doubt as to whether real wages decline in a modern war-produced inflation. Because the growing mechanization of industry has eliminated many skills and the craft organizations had little interest in unskilled labor anyway, a new type of labor organization built on industrial rather than craft lines was born in 1935 and quickly rivaled the A. F. of L. in size and power. Another important change was the friendlier attitude of government, particularly in periods of crisis whether war or depression. In the 1930's the government compensated in part for the fall in real wages of labor as a whole by passing numerous laws removing restrictions on labor's bargaining weapons, by shortening hours, and in many ways giving the worker a greater sense of security against unemployment, accident, and old age. Although at first opposed to many of these measures the courts, too, became more conciliatory as the older members died or retired and carefully chosen successors were installed in their places. Labor gained in other ways less susceptible of measurement but nonetheless real; for example, in 1914 telephones, electric lights, and automobiles were luxuries of the well-to-do, movies were appropriately known as "flickers," and tractors, washing machines, refrigerators, radios, and countless household gadgets were unknown or virtually so. Since then these and many other pleasure-giving or labor-saving devices have been improved, cheapened, and made available to a large portion of the population. To cite one example, a six-cylinder five-passenger Chevrolet touring car cost \$2150 f.o.b. Detroit in 1912 and in 1941 the same make and model but a vastly improved automobile cost \$794. Moreover, the later car was actually within the reach of many workers and millions more enjoyed the use of good second-hand cars at fractional prices. Numerous government services like road maintenance, public education, parks and recreation

facilities, police and fire protection, and many government research projects have increased in quality and quantity and added to the real income of many individuals. Finally, the incomes of families have risen, partly because today the average family consists of four persons instead of five as in 1890 and more women have paying jobs.

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CHAPTER XXIX

TRANSPORTATION AND COMMUNICATION

Development of transportation.—The history of transportation in the United States has been one of constant improvement and change—rivers, roads, canals, railroads, each in turn served to raise to a higher level of efficiency the methods of transport. The twentieth century witnessed the advent of another agency, the automobile. The effects of this on the older forms, and on our social life, constitute the most marked change in this field since the railroad superseded the canal. This period has also seen the transformation of the airplane from an experiment to a commercial success, but the full utilization of this method belongs to the future. It should be noted, however, that no form of transportation in use has ever disappeared; as other methods have been developed they have been added to existing agencies, and have frequently quickened the older ones to renewed activity.

During World War I there was an almost complete cessation of new railroad building as the free capital of the country was diverted into war channels; and since that event other circumstances have combined to discourage additions to existing lines. Among these may be mentioned the insufficient earnings of the railroads during the years since World War I, the competition of automobiles and motor trucks, and the practical completion of necessary facilities. On January 1, 1942, the railroad mileage was only 233,670 or an actual decrease of 26,000 miles since the high-water mark in 1916; a greater mileage was abandoned than constructed during the World War I period. Most of the new building after the twentieth century was in the South and Southwest, which were least well supplied with railroad facilities at the beginning of the period. The greatest mileage of any state is in

Texas. An interesting addition to new mileage was the completion in 1923 of the Alaska Railroad, about 500 miles in length, which was built and operated by the federal government.

Effect of World War I.—The vast expansion of industry during the years of our neutrality put a great strain upon the railroads, and after the entrance of the United States into World War I the railroad service began to break down. It became evident that some form of centralized control was necessary and this was obtained by the operation of the roads of the country as a unit during the period of the war. Government operation was substituted for regulation. During the twenty-six months from December 28, 1917, to February 29, 1920, the railroads were under federal administration, at the head of which was placed first William G. McAdoo, then Secretary of the Treasury, and later Walker D. Hines, and the problem of control became one of efficient administration. It was possible for the government, by the unification of all the railroads under one management, to effect many economies and to utilize the transportation facilities to better advantage than the separate organizations had been able to do. Short routing of traffic, unification of all facilities including ticket offices and terminals, rolling stock, etc., reduction in passenger service, expeditious movement of freight by sending solid trainloads, standardization of freight cars and locomotives, were a few of the economies introduced. The last-named is a striking case; before the war there were some two thousand styles of freight cars and nearly as many styles of engines, but these were reduced to twelve standard types of freight cars and six standard types of locomotives of two weights each. So far as traffic operation was concerned the results of federal administration were praiseworthy, but the financial results were not so satisfactory. The excess of operating costs over revenues for the twenty-six months of government operation was estimated by Mr. Hines in 1920 at \$900 million, an estimate which has since been raised to \$1200 million. Part of this deficit is attributable to the mounting costs of labor and supplies, part to the subordination of profits to the requirements of war, part to the previous rundown condition of the railroads, and a

large part to the failure to raise rates in proportion to the increase in wages and prices. The loss must be counted as one of the costs of the war, rather than as evidence of wasteful government administration, though it has frequently been used as an argument against government ownership and operation.

The Transportation Act of 1920.—The war period of federal administration had pointed some valuable lessons both to the owners and to Congress, and the terms upon which the railroads were to be managed in the future were different from those which had prevailed before. Those conditions were laid down in the Transportation Act of 1920, which to some extent reversed previous railroad policy. The powers of the Interstate Commerce Commission were greatly enlarged and authority was given it to regulate railroad capitalization, car service, and consolidation. But the most important provisions of the act were those dealing with rates and with labor. On all these points railroad legislation before World War I had been insufficient. There had been no control over the issuance of securities except that exercised by the state commissions, nor had consideration been given to service. Attention had been concentrated mainly on questions of rates and discrimination. The machinery for the settlement of railroad disputes was also inadequate. On the other hand, the legislation had been unduly restrictive along other lines and had vainly attempted to enforce competition.

The idea that competition must be enforced among railroads was abandoned in this act. Pooling, forbidden under the original law in 1887, was now legalized under the supervision of the commission. Consolidation of the railroads of the country into a few great competitive systems was planned, and several comprehensive schemes were drawn up. It was hoped that by consolidation the costs of operation could be considerably reduced and that the combined systems would be enabled to earn a fair return on their investment. No government action was taken to enforce consolidation, but in the next twenty years a number of voluntary regroupings was made, without, however, materially changing the railroad map of 1920. On the other hand, real progress was made in

the integration and co-ordination of the facilities of the railroads with those of motor carriers. The combination of American railroads into regional monopolies, as in Britain, or into a single unified system, as in Germany and France, seems unlikely.

With regard to rates the Transportation Act of 1920 introduced a new principle ; namely, the responsibility of the government, if it controls rates, to bear in mind their effect on earnings. The commission was given the power to fix both maximum and minimum rates : the former would protect the interests of shippers ; the latter, those of investors and also of competitors such as water carriers. In general, it was provided that the rates should be so fixed as to yield a fair return. In pursuance of this policy the commission at times granted rate increases and also compelled rate reductions. This provision was, however, finally abandoned in 1933 as unworkable.

The labor provisions of the act continued two kinds of tribunals to adjust difficulties, which had been set up during World War I. Adjustment boards, composed of employers and representatives of the railroad unions, were to mediate controversies. To settle wage disputes, a Railroad Labor Board was created, consisting of three representatives each of the employees, the management, and of the public. Official recognition was thus given to the interest of the public in such matters. The Railroad Labor Board failed to maintain itself, largely because it lacked power to compel acceptance of its decisions and because the railroad unions distrusted it. Consequently, it was replaced in 1926 by a Railroad Mediation Board. The duties of this board were, first, to bring about agreement by mediation ; if this failed, it urged the parties to submit their controversy to arbitration. Strikes were not forbidden, nor was arbitration compulsory, but every effort was made to obtain a peaceful settlement of disputes by agreement of the two parties. If all else failed, a report was finally made to the President, and a "cooling-off" period of thirty days after such report was prescribed, during which no strike or lock-out was permitted.

In 1934 a new law was passed which provided for a

National Board of Adjustment of thirty-six members, which was divided into four divisions. These considered controversies, but had no power to fix wages or to determine working rules. If they were unable to reach a decision the matter was referred to a new Railroad Mediation Board of three members who endeavored to obtain a settlement or, failing this, to have the dispute submitted to arbitration. The new machinery has worked satisfactorily and has been held up as a model for handling industrial relations.

In addition to this, legislative provision has been made for a dismissal wage, for retirement allowance or old-age pensions, and for unemployment insurance. By the Railroad Retirement Act of 1937 all employees were made eligible to retirement annuities at the age of 65 ; and those 60 years of age might retire if they had completed thirty years of service or had become permanently disabled. The costs of the system were borne by contributions of employees and of the carriers. Partly because of their economic strength, and partly by reason of their political power, the railroad unions have succeeded in substantially improving their wages and working conditions during the past twenty-five years. But they have not been able to protect themselves against the effects of decreasing employment in the railroad industry as a whole.

The Transportation Act of 1920 imposed upon the Interstate Commerce Commission new duties in fields formerly defined by regulatory legislation and gave it new responsibility. In order to enable this body effectively to discharge these added functions the membership was increased from nine to eleven members. This act, together with other prior legislation, has rehabilitated the commission and it is now recognized as a necessary and effective instrument of federal control. By its decisions it has developed a body of more or less authoritative rules for the regulation of railroads ; the right of the federal government to control them, at first disputed, has now been thoroughly established ; and finally there has been created a system of machinery for dealing with them which can easily be enlarged or entrusted with greater powers if that seems desirable. The growing devel-

opment of public control in this field, wrote Professor Sharfman,¹ "is the most striking manifestation in the entire economic sphere of the changed relationship between government and business which has accompanied the industrial development of recent decades . . . the traditional emphasis upon individualism is clearly subordinated to the achievement of conscious ends."

Agitation for government ownership and operation of our great railroad systems has thus been forestalled. This would surely have arisen in this country, as it has in Europe, had not an adequate and successful system of government control been devised, which has checked the worst abuses and won the confidence of the people.

Government regulation.—In the development of regulation and control which has been described there was little room for state control. In general the states have attempted to secure the needed regulation by establishing railroad commissions. In the South and West these have usually been mandatory; that is, they have been clothed with power to establish and enforce maximum rates. In the eastern and central states, on the other hand, the rule has been the creation of commissions with supervisory powers merely, whose duty it was to investigate and make public all charges against the railroads. With the growth of the great railroad systems the state governments have become clearly inadequate to cope with the problems involved, and, while the state commissions have done valuable service, broader powers of control were seen to be necessary. These could be exercised only by the federal government.

After the United States entered World War I, the federal railroad administration proceeded with little regard to the rights of state commissions. In its efforts to obtain unified operation and efficient service, it centralized control to a hitherto unheard-of degree. But after the armistice state commissions insisted upon their rights and the question of final authority came before the Supreme Court, which in 1919 upheld the authority of the federal administration as a war power. Finally the Transportation Act of 1920 con-

¹ I. L. Sharfman, *The Interstate Commerce Commission* (4 vols., New York, 1931-1937), I, 283.

firmed the superior authority of the Interstate Commerce Commission over the state commissions as a permanent peace policy. There has been a gradual tightening of national control upon the entire transportation system until today the states have little effective rate-making authority and in other respects are subordinated to federal authority. This is a process which has been going on for a long time and its settlement in favor of national control over national railroad systems was apparently inevitable. On the other hand, the scope of the state commissions has generally been broadened so as to include the regulation of state and local public utilities (such as street railways, electric light, gas, and water companies) over which the federal government has no control. Their names have usually been changed from railroad to public utilities commissions to correspond with their new duties, and their chief usefulness in the future will probably be found in this field.

Railroad prosperity and depression.—After their return to private operation, the railroads enjoyed a long period of prosperity, sharing in the industrial expansion of the times. In addition to the money expended by the federal government during World War I, nearly eight billion dollars was invested in new railroad facilities during the nine years ending in 1929. Roadbeds, tracks, and terminal facilities were improved; curves were straightened and grades eliminated; unprofitable lines and trains were discontinued; and passenger and freight schedules were speeded up. "Railroads move freight today," said a recent writer,² "at speeds of approximately 17 miles per hour, at a cost of little over 1 cent per ton per mile, and subject to damage which is less than 1 per cent of the freight rate. The speed of early nineteenth-century wagons probably did not exceed 3 or 4 miles per hour, costs ranged from 6½ cents to over 20 cents per ton mile, and damages were certainly greater than in railroad transportation of the present day."

The most promising improvement was the electrification of some lines, especially of the suburban service of railroads in the larger cities and of terminals and switching yards. On the heavy mountain grades of the Cordilleran region electric

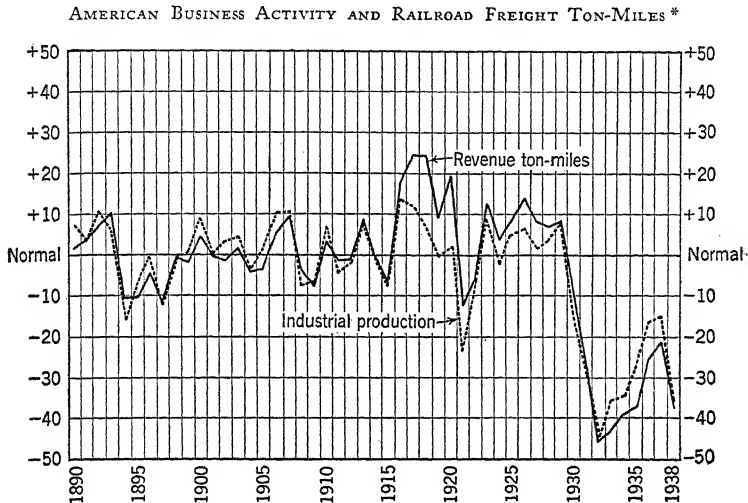
² S. Daggett, *Principles of Inland Transportation* (New York, 1941), 12.

power is far superior to steam and here, too, it was gradually being introduced.

Down to 1929 the freight business and the revenues of the railroads steadily increased, only the passenger business falling off on short distances. The depression affected the railroads adversely along with other industries, and they began to clamor for relief. They felt that they were unfairly treated by the competition of government-subsidized river barges and of busses and trucks which operated on state supported highways. There was some force in these arguments, but the Interstate Commerce Commission at first refused the roads permission to raise their rates. Congress also apparently took the view that the railroads should reduce their own costs of operation and improve their efficiency before asking for relief. In order to effect these results the office of Federal Co-ordinator of Transportation was created by act of June 16, 1933, and Joseph B. Eastman, for thirteen years a member of the Interstate Commerce Commission, was appointed to this post. His first efforts were directed at reduction of fixed charges, financial reorganization where possible, and better enforcement of the labor provisions.

Railroads are public carriers invested with a public function and are compelled to operate in bad times as well as good. They are not permitted to close down their plant during a period of depression, but must render their services even at a loss. During the business depression of the 1930's the net income of Class I railroads was transformed from a surplus of \$897,000,000 in 1929 to a deficit of \$123,000,000 in 1938. So serious did the situation become that the Interstate Commerce Commission granted temporary rate increases in certain commodity freight rates in 1932 and again in 1935, and the government through its agencies loaned the railroads over \$800,000,000 to meet taxes and fixed charges. Railroad labor, too, made its contribution by accepting a temporary reduction in wages of about 10 per cent between 1932 and 1935; after the latter date the wage scales were gradually restored. Some help was also given in 1940 by relieving the land grant railroads of the requirement that they should perform certain services for the government at low preferential rates; in return the roads restored to the

government some 8,000,000 acres of land received under the early grants, which were added to the public domain. Thus ended an eventful chapter in American railroad construction. The close connection between railroad prosperity and industrial production is clearly shown in the following graph.



Variations 1890 to 1913 are for fiscal years, and 1916 to 1937 for calendar years.

* J. H. Parmelee, *The Modern Railroad* (New York, 1939), 656.

The 1940's ushered in a new swing of the pendulum. The outbreak of the war in Europe, our own defense program, the passage of the Lend-Lease Act in March, 1941, together with the policy of all-out aid to Britain, increased tremendously the amount of freight to be carried and placed a severe strain upon the facilities of the railroads. Although they had fewer locomotives and freight cars than in 1916, the size and efficiency of these had been greatly increased, so that the smaller number could haul more freight. Orders were hurriedly placed for additional cars, but the shortage in steel and other essential materials prevented full delivery. The burden placed on the railroads was further accentuated by the delivery of oil tankers to the British, by the diversion of vessels from the coastwise trade to ocean traffic, and by the cessation of the intercoastal traffic early in 1942. The solution of the problem may be found, as it was in World War I,

by government control and operation of a co-ordinated transportation system under a powerful railroad co-ordinator. A rationalized plan would embrace not only the railroads, but also motor trucks, pipe lines, and barges, assigning to each those services for which it is best suited. Quicker routing and turn-around of railroad freight cars and the prevention of their use for storage purposes, the assignment of short hauls and way-freight services to trucks and the better organization of these into efficient lines, and the increased use of our waterways for bulky and slow-moving commodities, all seem to be called for. If a government program is not put into effect, it will be because the privately owned and operated utilities demonstrate their capacity for handling the greatly increased traffic without government interference.

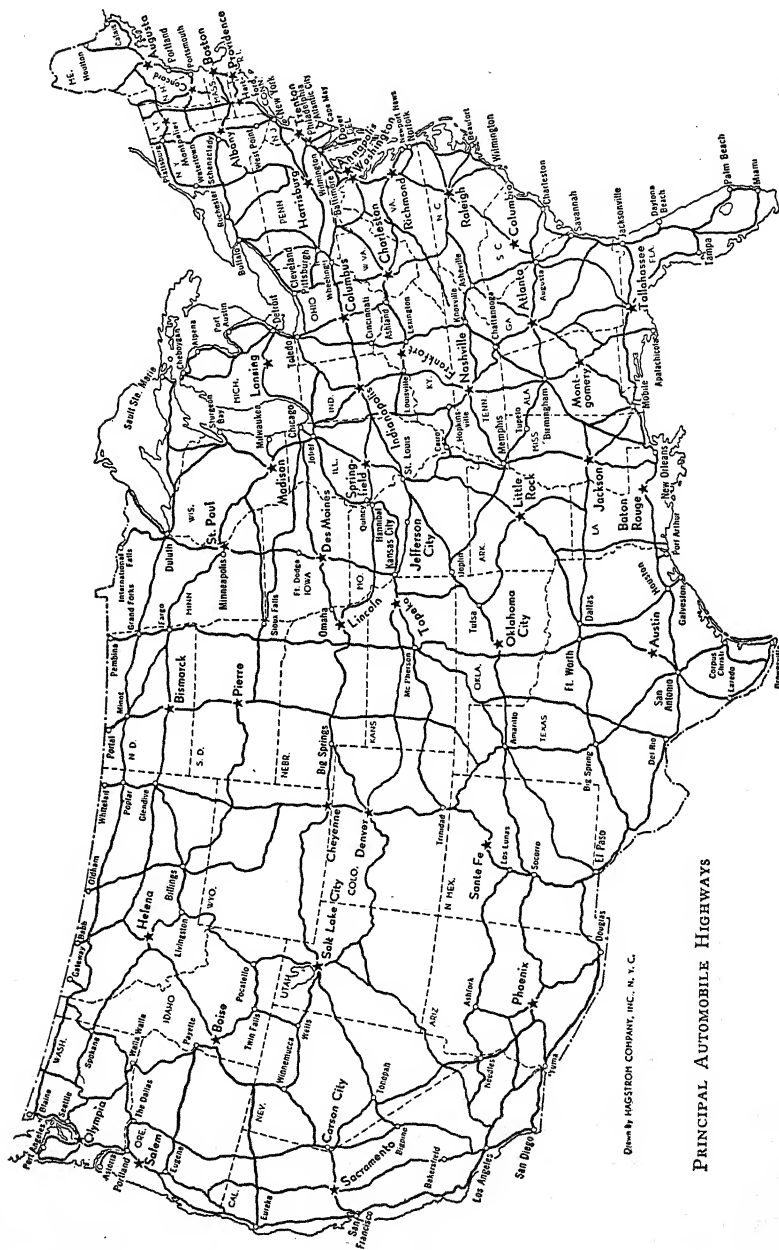
Motor traffic and improved roads.—In the history of transportation in the United States there has run one primary purpose, that of providing the people with the most effective facilities yet developed. The next turn of the wheel in this kaleidoscopic picture revealed the internal combustion motor vehicle as the latest important commercial method of transportation. Although Oliver Evans propelled a vehicle through the streets of Philadelphia by steam in 1804, it was not until 1893 that the first practical automobile with internal combustion engine was produced in the United States. After a decade of experimentation and improvement the industry entered upon the amazing career of expansion and development which has today given it first place among the manufacturing industries of the country. In 1941 there were registered 32,453,000 automobiles, of which about seven-eighths were passenger cars and the rest trucks or busses ; this is 71 per cent of the world registration. The proportion of cars to population is thus about one car to every four persons ; thus, theoretically, every family could go riding at one time. Nothing evidences better the high standard of living of the American people and their quick acceptance of new methods than the widespread use of the automobile.

The effect of this popular, convenient, and mobile system of transportation has been even more revolutionary than the electric railway, for it has brought the country districts in close touch with the cities and towns and has done more

than any other single factor to break down rural isolation. It is impossible to over-estimate the social importance of motor vehicles, which have linked city and country, with benefit to dwellers in each section. Automobiles are today a necessity for the farmers, of whom practically a third are car-owners. The general use of motorized vehicles has also produced minor social changes: less is spent on housing and clothing, fewer books are read, church is neglected, and more time is spent in the open. Motor busses have put the trolley lines in many of the smaller communities out of business and have cut seriously into the passenger business of the inter-urban electric railway and of the steam roads, while the motor truck is threatening to steal much of the short haul freight business. It is estimated that 75 per cent of the less-than-carload traffic which is carried into and out of Chicago within a 60-mile radius is moved by truck. With the improvement of roads, moreover, the area of profitable operation of motor trucks has steadily widened and now reaches 200 miles or more.

Motor trucks possess certain distinct advantages over railroads in their flexibility, low cost, smaller loss, and damage to goods in transit, door-to-door collection and delivery, ability to give rush-hour service when needed, and other features. They have been most successful in capturing the traffic of commodities that take high rates by rail, such as the movement of perishable fruits and vegetables, but also do an increased business in handling household goods and in the delivery service of retail stores. They have widened the market areas of manufacturers and commercial houses and have shortened the distance and time between producers and consumers.

The attitude of the railroads toward this new competitor has undergone several changes. At first the railroads paid little attention to trucks and busses, but when these began to cut into railroad traffic they fought them and asked for protection. Finally, they realized that co-ordination offered the best solution and today some railroad lines are meeting this new competition by establishing motor service of their own. Most of the traffic handled by motor carriers and private automobiles, however, is new business, and has been devel-



oped by this latest agency. There are today in the United States 48,000 communities which have no other form of transportation at their command than the motor vehicle. This form of transportation supplements and does not supplant the older agencies.

Another result of the general use of the automobile has been the revival of an interest in good roads similar to that which attended the introduction of coaching and led to the building of the early turnpikes. The early development had been halted by the building of canals and railroads, which were greatly preferred over the slower routes. For three-quarters of a century labor and capital were devoted to the construction of these rather than roads, which lagged behind. About 1890, however, a "good roads" movement was initiated, at first because of the bicycle craze and later owing to the rapidly increasing use of automobiles. Beginning with New Jersey in 1891 practically every state has built and is extending a system of hard roads across the country; to this purpose were applied revenues amounting to \$10,801 million for the period 1921-1937 derived from automobile licenses and the practically universal gasoline tax. Since 1916 the federal government has revived the policy of federal aid for roads, which had lain dormant since the National Road was built. Federal appropriations for internal improvements were declared unconstitutional by Andrew Jackson when he vetoed the Maysville Road bill, appropriating federal money for a road in Kentucky, but today, in response to an urgent demand for good roads, the Constitution is found flexible enough to permit such appropriations. As a result of these improvements it is now possible to drive from the Atlantic coast halfway across the continent on paved roads, and to continue the journey to the Pacific on improved gravel roads, while a constantly increased network of good roads crosses the country in every direction. Whereas in 1914 there were only 257,000 miles of surfaced roads in the United States, by 1939 there were over 1,500,000 miles of such roads, or more than six times the total railroad mileage. The neglect of a century had been more than repaired in a generation.

Aviation.—The airplane in the United States may be said

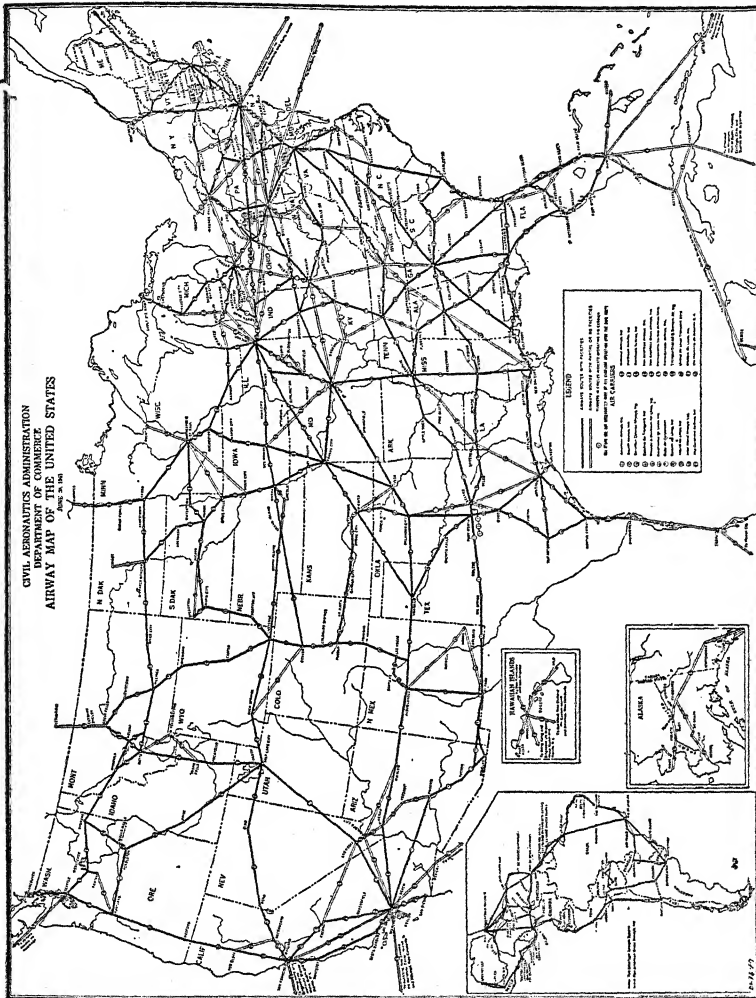
to date from 1903 when the Wright brothers succeeded in remaining in the air with their heavier-than-air flying machines. The development of airplanes was greatly accelerated by their use for military purposes during World War I, and after that event equally striking progress was made in their utilization for commercial purposes.

The expansion of aviation in this country is clearly set forth in the following brief table :

SCHEDULED AIR-CARRIER OPERATIONS IN THE UNITED STATES				
<i>Year</i>	<i>Planes in service</i>	<i>Miles flown (millions)</i>	<i>Passengers (thousands)</i>	<i>Express carried (tons)</i>
1927	128	5.9	8.7	23
1932	456	45.6	474.3	431
1940	358	108.8	2959.5	5583

These figures relate only to domestic commercial air transportation, but American planes penetrate far beyond our national boundaries. Among the more notable extensions of passenger service may be listed the opening of routes between the United States and Central and South America (1932), the beginning of service across the Pacific (1936), and the organization of commercial travel across the Atlantic. This expansion was facilitated by the provision of airway facilities, mostly by the federal government, by the building of airports, mostly by municipalities, and especially by improvements in the airplanes themselves. These have grown bigger and faster and safer. Among the advantages of air service that of speed⁸ must be given first place, though this is partially offset by the time lost in getting to and from the airports, which are usually located at a distance from the centers of population. It has been estimated that little time is saved in airplane trips under 300 miles. There is also the saving in the expense of a track, but against this must be set off the outlay for landing fields, wireless installations, weather reporting service, and the marking, lighting, and

⁸ The time for a passenger airplane flight between New York and Los Angeles was 13 hours in 1941, but it was expected that this would further be reduced.



signaling of routes. The basic disadvantage of the airplane is that it is a poor weight carrier and must therefore charge high rates for passengers and express. The investment is, moreover, large, operating expenses are high, and the useful life of an airplane is short. The reliability and safety of airplane travel have been notably improved—there was not a fatality on the commercial air lines of the United States dur-

ing the twelve months ending in March, 1940—but they rank below railroads in both these respects.

The government control of air service was first entrusted to the Post Office Department, then (1926) to the Department of Commerce, and finally (1938) to an independent Civil Aeronautics Authority. This body exercises control over rates, routes, schedules, mail, and all public aspects of air transportation. In view of the complicated nature of aviation and its international relationships federal control was vitally necessary.

Owing to the geographical spread of the United States, the expansion of commercial air transportation has proceeded faster and reached larger dimensions than that of any European country. The rank of the four leading nations is shown for 1938 in the following table :

AIR TRANSPORTATION, 1938*		
Country	Miles flown (millions)	Passenger-miles (millions)
United States.....	69.7	557.7
Germany.....	12.0	63.0
Great Britain.....	7.9	37.1
France.....	6.7	41.2

* Stuart Daggett, *Principles of Inland Transportation* (New York, rev. ed., 1941), 107. During the calendar year 1940 the number of miles flown in the United States was 109 million and the number of passenger-miles flown was 1797 million.

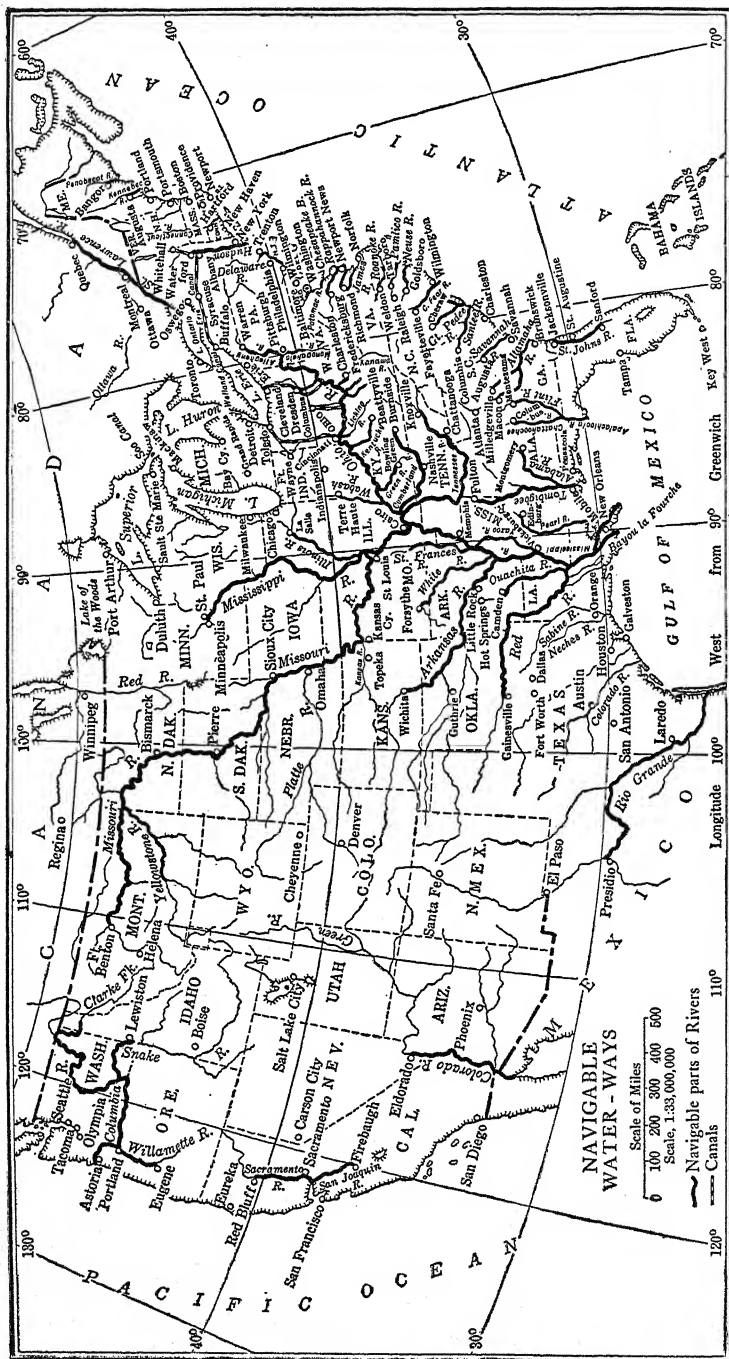
The war program of the United States completely altered the motor and aviation industries. Production for civilian use practically ceased and all the resources and materials formerly used for these were diverted to war manufacture. The present program calls for 60,000 planes and 45,000 tanks in 1942 and 125,000 planes and 75,000 tanks in 1943, together with immense quantities of anti-aircraft guns and munitions. Their production will place a heavy burden on existing and prospective facilities and leave little place for civilian needs.

Inland water transportation.—The river trade, which was thought to be almost dead, experienced a great revival

after 1914. Before that date the packet-boats had almost disappeared from the rivers, the barge trade was just about holding its own, and only the rafting of logs was increasing, and most of these were floated down the Pacific coast rivers. Explanations of this decadence were to be found in the non-co-operation and even hostility of the railroads, but more especially in the lack of modern equipment and facilities for handling traffic on the rivers. The transportation needs of the war period, however, put a burden on the railroads which they could not adequately meet so resort was had again to water transportation.

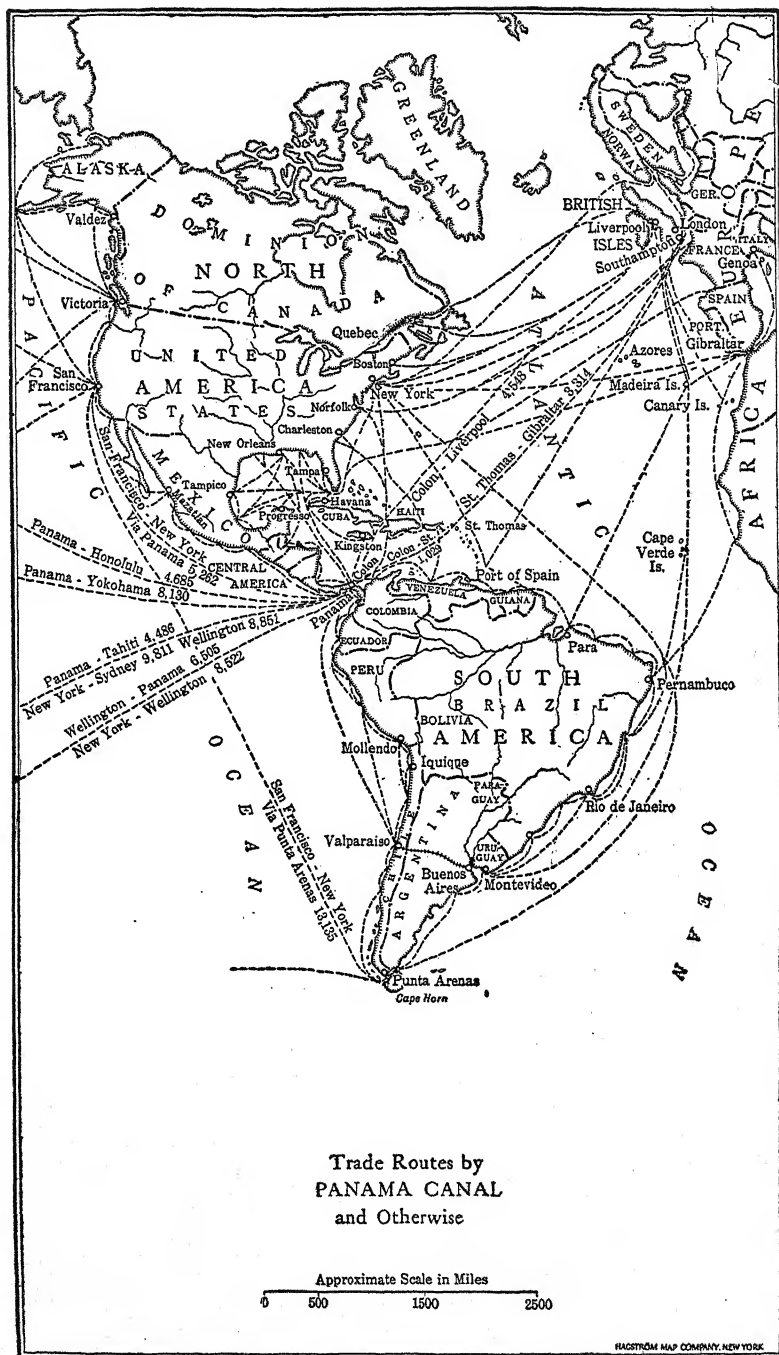
Barge building was undertaken by private capital and also by the federal government, and soon strings of modern 2000-ton barges towed by powerful tugs made their appearance on the Ohio, the lower Mississippi and Warrior rivers. In 1924 the government-owned Inland Waterways Corporation was created to take over and operate the federal barges, which until then had been under the direction of the War Department; this was enlarged in 1928. In the meantime the Transportation Act of 1920 directed the railroads to make joint rates with the barge lines and to co-operate with them. The railroads, however, looked upon this revival of the river traffic with suspicion and saw in it a threat to their own prosperity. Owing to the great economy in operation, the river trade grew rapidly and consistently. A single tug towed 15 to 20 barges, representing as many freight-train loads. Most of the traffic was of heavy, bulky, and low-cost articles—wheat, cotton, logs, coal and coke, petroleum, stone, and iron and steel products downstream, and sugar, petroleum, gravel and sand, and sulphur upstream. The total river traffic in 1938 was 148 million tons.

The five Great Lakes comprised a chain of natural inland seas on which transportation resembles ocean transport. Traffic consisted largely of iron ore, coal, grain, and petroleum and to carry this heavy freight special types of vessels were developed. Shipments and receipts at all lake ports, almost entirely domestic trade, increased steadily to 1929, when they were 150 million tons, but during the early 1930's they fell to half that amount. By 1938, however, they were back to 162 million, a record high.



Even the canals shared in the rehabilitation of the water traffic. Three main purposes seem to have led to this movement: (1) to give cheaper freight to shippers; (2) to provide effective competition with the railroads; (3) to relieve the railroads of the excessive volume of heavy freight. A common but somewhat unfair statement, used to justify the movement, was that a dollar would move a ton of traffic 127 miles on the railroads, 333 miles on the old Erie Canal, 1250 miles on the Great Lakes, and 2000 miles on the improved New York State Barge Canal. Barge companies did not pay for the costs of their road bed; these were borne by the taxpayer. Canal traffic was confined almost entirely to the New York State Barge Canal and to coastal canals like the Cape Cod Canal and the Sabine-Neches Canal in Texas. Standing in a class by itself was the Saint Mary Falls Canal (Sault Sainte Marie), which connects Lake Superior with Lake Huron, with a tonnage in 1940 of 89,000,000 tons. The New York State Barge Canal carried 4,800,000 tons in the same year.

The completion of the Panama Canal, which was first opened in 1914, brought about a partial shifting of the routes of trade. The interruption to ocean shipping occasioned by World War I delayed the full utilization of this canal, but the development of the California oil fields during the 1920's swelled the traffic. In 1939 this practically equaled the shipping through the other great international canal—the Suez Canal—with a tonnage of 29,000,000. By providing an all-water route between the two seaboard of the United States the canal diverted considerable traffic from the transcontinental railroads and developed the intercoastal trade. Freights to and from the Pacific and Atlantic coasts have been cheapened and industry in the Pacific section has been stimulated. The west coast of South America—Peru and Chile—was brought much nearer the United States, and an advantage was given our merchants over their European competitors in trade with them and also with the Far East. Traffic increased so rapidly that in 1939 Congress authorized the construction of a third set of locks parallel to the existing ones. The outbreak of World War II forced a suspension of this project.



Midway between the older type of long shallow ditches and the newer short ship channels lie certain new projects, the most discussed of which is the Lakes-to-the-Gulf Deep Waterway, which would build along the line of the Chicago Sanitary Canal, the Illinois and Michigan Canal, the Illinois River, and the Mississippi River a nine-foot channel. It is believed that this would restore the Mississippi traffic, provide competition with the railroads, and establish a fairly direct water route between the upper Mississippi Valley and South America. Another projected improvement—"one of the most vital improvements to transportation on the North American continent," in the words of President Hoover—is the St. Lawrence Ship Channel, which is planned to provide a route with a sufficient minimum depth for ocean-going vessels to sail through the St. Lawrence River and the Great Lakes, permitting ships to load at Duluth or Chicago with grain or other products for transportation to Liverpool or Hamburg or other foreign ports without breaking cargo. Opposition on the part of New York, which would probably suffer a loss of western trade, and of the railroads, together with disagreements between the United States and Canada, have thus far blocked the realization of this project.

It is clear from these figures that the full capabilities of the extensive water routes in the United States are not being utilized. The estimated net total domestic water-borne commerce was 457 million tons in 1939, which is about one-fourth of the revenue-paying freight on the railroads in the same year (1730 million tons). As between the different agencies of transportation there has gone on and is still continuing a lively competition and readjustment of traffic so as to obtain the most efficient service. To the low-cost but slow water routes have been assigned the heavy, bulky, and cheap goods. The electric railway and the motor trucks and busses have captured a considerable portion of the light weight freight, such as milk, and less-than-carload lots. It is estimated by the Interstate Commerce Commission that motor trucks carry nearly 25 per cent of all traffic moved by land. To these agencies should be added the pipe lines of the country, with a total length of over 1,000,000 miles. The great bulk of the freight service of the country is still carried by the

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railroads in spite of the inroads of other carriers. The railroads remain, therefore, the most important and indispensable agency of transportation yet developed. Owing to the competition of motor vehicles they have recently thrown off some of the fetters of tradition and are greatly improving their service. A somewhat spectacular example of this is the stream-lined "Zephyr" train of the Burlington, which in 1940 made the run from East Dubuque to Prairie du Chien at an average speed of 84 miles an hour. We may conclude that transportation, like agriculture and industry, never stands still. It assumes new forms, performs new services, and continually advances.

Communication.—The facilities for communication developed equally with those for the physical movement of goods and persons. Of these agencies the post office has remained the most important, though it is difficult to measure its contribution to our modern civilization by statistics. The growth of all the branches of postal service was continuous up to 1929, the peak year; after that they suffered a decline in common with all other economic activities, as a result of the depression, but recovered again in the late 1930's. In 1939 the post office handled 26,000 million pieces of mail. Of great usefulness has been the parcel post system, which was introduced in 1912 and has since expanded rapidly; the total number of pieces of parcel post mail handled during 1939 exceeded 84,000,000. This service has seriously cut into the business of the express companies, but has been of great utility to business houses and individuals. The one service of the post office which expanded during the depression was the postal saving business. As distrust in commercial banks grew, increasing use was made of these government guaranteed agencies, in spite of the low rate of interest (2 per cent). During the prosperous 1920's other forms of investment were preferred and deposits grew slowly (from \$43 million in 1914 to \$154,000,000 in 1929), but during the depressed 1930's they expanded greatly (to \$1293 million in 1940 with over 2,500,000 depositors).

The same process of improvement and readjustment was taking place in other agencies of communication that was oc-

curing in transportation. The growth of the telegraph kept pace with the expansion of business and at the same time aided it. The cost and time of transacting business was reduced, middlemen were eliminated, and merchants enabled to operate with smaller stocks of goods—"hand to mouth buying," it was called. The number of telegrams sent—the best index of its importance—increased from 107,000,000 in 1912 to 197,000,000 in 1939. Over four-fifths of the facilities were owned by the Western Union Telegraph Company, which exercised a practical monopoly. This was seriously threatened, however, by improvements in the competing services. Radiotelegraphy, introduced about 1900, was first used for land messages, but by 1913 transoceanic communication was possible and its uses were broadened. It competed with the seemingly impregnable cable systems and offered lower rates.

The telephone was steadily perfected and extended. In 1915 long-distance messages were first sent from New York to San Francisco; in 1923 the first picture was transmitted over telephone wires; and in 1930 teletyping was perfected, by which typewritten messages are sent over telephone lines and are automatically reproduced. In 1940, the peak year, there were 20,831,000 telephones in use in the United States, double the number of 1915. The American Telephone and Telegraph Company had almost a complete monopoly, with 99 per cent of the instruments. The extent of the business done is shown by the fact that in 1940 over 30,000 million telephone calls were made. Even more than the telegraph it has increased the speed and area of business.

The most spectacular of recent inventions is the radio. It has outdistanced even the automobile in the rapidity of its mushroom growth. First definitely established between 1920 and 1922 as a regular means of entertainment, it is estimated that in 1942 there were 60,000,000 receiving sets in use in the United States. Its importance is social as well as economic, for it is used to bring music, lectures, news, and other forms of entertainment to radio audiences as well as financial news or advertising. It was the last step needed to break down the isolation of rural communities. The trans-

mission of messages by radiotelephony from ships in distress at sea is perhaps the most important commercial use of this latest contribution of science.

Federal control was extended to cover the field of communication by an act of June, 1934, which created a Federal Communications Commission to regulate all interstate and foreign communications by telegraph, telephone, cable, and radio.

The main agency for the dissemination of information and molding of public opinion is after all the printed page. Most people limit their reading to newspapers and magazines, and these have undergone changes to win popular demand. Larger newspapers have been offered for the same price; this has been made possible by technological improvements and the production of cheap paper, but most of all by the expansion of advertising. This has grown with the increase in circulation, for its effectiveness is proportionate to the number of people it reaches. Advertising is so profitable that newspapers and periodicals can frequently be sold for less than the cost of the printed paper, but it holds the danger that the advertisers may determine the policy of the paper. The newspapers have grown in popular appeal through their various news services, but the power of the editorial has declined. In 1940 there were 1968 English-language daily newspapers with a combined circulation of 41,000,000 copies. Some 2300 monthly magazines, mostly of the pulp type, had the astounding circulation of 134,000,000.

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CHAPTER XXX

DOMESTIC AND FOREIGN COMMERCE

Domestic commerce.—The systems of transportation and communication which have been described are after all not ends in themselves, but agencies by which persons, commodities, and information may be transferred from one place to another. Transportation and trade are complementary to each other and move parallel in their expansion and contraction. The volume of our domestic commerce can only be approximated, but if the estimates already given¹ are carried forward we find that the movement of freight increased from 2000 million tons in 1914 to a high of 3865 million in 1926; the values of the trade for these two dates were \$30,000 million and \$100,000 million. This was over ten times the value of our foreign trade, and more than the total foreign commerce of the world, which was estimated by the League of Nations at \$65,000 million for 1928. The domestic commerce of the United States is clearly much more important than our foreign trade, although the latter attracts greater attention.

The growth in extent and importance of this traffic, and the vital service which transportation played in bridging the gap between areas of production of raw material and areas of their manufacture into finished goods, may be illustrated by tracing the movement of some of the more important branches of internal trade. Over three-fourths of the railroad freight traffic—which is over 60 per cent of the total traffic—consists of coal, gravel, lumber, iron, grain, petroleum, and livestock, and these will be selected for purposes of illustration.

✓ Four-fifths of all the coal mined comes from the five states of Pennsylvania, West Virginia, Illinois, Kentucky,

¹ See page 627.

and Ohio, and five-sixths of all the iron ore is produced in the Lake Superior region with an additional tenth from Alabama. These two materials are brought together by rail and water in the range of states bordering on the south shore of the Great Lakes, where 80 per cent of the blast furnaces and over 60 per cent of the steel plants are located. From these the finished steel and iron products are distributed to all parts of the United States. Most of the lumber cut today in this country is either yellow pine, which is highly localized in the southern states, or Douglas fir, which grows exclusively in the Pacific coast and northwestern states, yet the principal area of utilization is the Middle West. The production of grain and livestock is rather widely distributed throughout the country, yet there exist well-defined regions where they predominate, so that we speak unhesitatingly of the wheat belt, the corn belt, etc. But the chief areas of production are, in general, far removed from the centers of manufacture, which in turn are highly centralized, and equally far from the centers of consumption in our great industrial cities. Of the seven groups of commodities named in the preceding paragraph one only—clay, gravel, sand, stone, etc.—is so heavy and so cheap that it cannot stand the costs of distant transportation, though it bulks second in total quantity of railroad freight traffic.

Even this brief survey shows that the production of our most basic commodities is concentrated in restricted districts, and that even where production is widespread, as in the case of livestock, there is frequently a concentration in a primary market for processing. In each producing area great commercial cities have grown up, where the surplus commodities are gathered, manufactured, and distributed. The areas of production may change, as is illustrated by the exhaustion of the lumber along the Erie Canal, by the opening up of better sources, as in the case of the iron deposits of the Lake Superior region, or by the discovery of new products, as in the case of petroleum, but whatever the occasion domestic commerce quickly adjusts itself. This territorial specialization, with its consequent exchange of commodities, has greatly increased production, lowered and equalized prices, and brought within reach of all groups in the nation a constantly

enlarging supply of necessities and conveniences. The expansion of domestic commerce has also had important social and political effects, for the ease of movement has made for standardization and homogeneity of type. We eat the same food, wear the same clothes, read the same magazines, see the same motion pictures, and travel by standardized automobiles over highways lined with national advertising.

Barriers to interstate trade.— It was long our boast that the United States constituted the “greatest free trade area in the world” in which could be achieved all the advantages of the territorial specialization just described. Recently, however, this has been threatened by the legislation of states which desire to protect their own interests even at the expense of national benefits. Although restricted by the commerce clause of the Constitution, which confers the power to regulate interstate commerce upon the federal government, the states have been able to erect barriers which constitute a serious menace to national freedom of intercourse. In order to protect industries carried on within the state against outside competition differential taxation has been imposed, or public authorities are required to purchase all needed materials from producers within the states; thirty-one states had such laws in 1939. Home merchants are protected by curbing traveling salesmen representing outside sellers, and by legislation restricting the operation of department stores, mail-order houses, and chain stores. Interstate trucking has been checked and rendered more expensive by contradictory laws regulating and taxing motor trucks. The farmers have been given a near monopoly on some home markets by oleomargarine legislation, milk market restrictions, and quarantine and inspection laws.

The purpose of these restrictions has been in part to raise revenue, in part to give protection, and in minor degree to protect health and prevent the spread of plant diseases and insect pests. The extreme to which legitimate objectives have been perverted is illustrated by the requirement of a certain state that milk brought into the state from outside must be colored pink; this law was promptly declared unconstitutional. The effects of these interferences with the free movement of goods has been to prevent regional special-

ization and to raise costs. It was part of a "buy American," "buy at home" movement carried to an extreme localism, but seems already to have begun to ebb. The fundamental issue is constitutional as well as economic, and this is whether the guarantee of freedom of trade among the states can or should be evaded by subterfuge.

Wholesale trade.—The wholesaler is a middleman who stands between the producer on the one hand and the retailer or consumer on the other. He is being affected, usually adversely, by changes in the methods of production and by those in consumer demand. The census figures illustrate the first point. In 1929 there were 170,000 wholesale establishments in the United States, but less than half, or 80,000, were solely wholesalers, most of the others being bulk tank stations, manufacturers' sales branches, manufacturers' agents, brokers, commission merchants, and selling agents. In other words the manufacturers, producing now on a large scale and under severe competition, are by various devices trying to dispense with the middleman and to establish direct communication with retailers and consumers. They maintain regular selling departments, sending out agents to get orders and often sending goods on approval direct from the factories. Such a movement is facilitated by improvements in transportation, better credit rating facilities, and by national advertising which familiarizes the consumers with standard brands.

Changes on the side of demand also are rendering the services of the middleman less necessary. The splitting up of the old general store into specialty stores makes it easier to establish direct contacts between manufacturers and retailers. The growth in the size of metropolitan stores and of chain stores means larger orders which the manufacturers find it worth while to seek directly. And finally, the rapid changes in style, the hand-to-mouth buying of retailers, and the shift of much of the risk and storage functions back to the manufacturer, make it necessary for him to keep in close and direct touch with consumer demand and put an emphasis on what is called "merchandising."

The following businesses had a wholesale trade in 1929 exceeding \$2500 million each; piece goods, cotton, grain,

livestock, fresh fruits and vegetables, meats, groceries, iron and steel, and petroleum. The total wholesale trade was estimated at \$70,000 million. Ten years later it had declined to \$55,000 million.

New York is the greatest wholesale distributing point for imported goods, but probably yields first place to Chicago for domestic wares. The latter is the center of the grain trade, followed by Minneapolis, Duluth-Superior, Kansas City, St. Louis, and other cities; it is also the leading meat-packing city, although hard pressed by St. Louis, Kansas City, and Omaha. Most of the dairy and poultry products also pass through Chicago. Boston and Philadelphia on the Atlantic and San Francisco on the Pacific are important assembling and distributing points for foreign trade, while Cleveland and Detroit are important for iron and steel and automobiles. Houston, Galveston, and New Orleans handle most of the cotton. Louisville is one of the most important tobacco markets in the world. Pittsburgh is an iron and steel and coal center, and Los Angeles is a great assembling and distributing point for lumber and petroleum, having larger intercoastal trade than any other city.

Retail trade.—The census of 1930, for the second time in a century,² collected statistics of the retail business of the country. This showed that there were approximately 1,500,000 stores, restaurants, filling stations, and other retail establishments in the United States in 1929, doing a total trade of about \$50,000 million. This was one store for every seventeen families. By 1939 the number of stores had grown to 1,770,000, but the sales, as a result of the long depression, amounted to only \$42,000 million.

The keen competition among large scale producers, the huge profits to be obtained if goods could be sold directly to the final consumer, and the enormous growth of national advertising, have given impetus to the movement to bring the original producer and the final consumer closer together. The development in turn of the department store, the mail-order store, and the chain store is evidence of a tendency to simplification and of an effort to obtain the economies of large scale methods and of unified control. The department

² See page 351.

store held its own, but did not show the expansion evidenced by the other types. The large mail-order stores of Montgomery Ward and Sears Roebuck began in 1926 to establish branch stores in the more important trading cities, both to hold their rural clients and to attract new urban customers. Other smaller mail-order houses entered the field, especially for the sale of ready-made clothing, but they all experienced rough sledding during the depression years after 1929. The mail-order catalog is best suited to a market where prices are stable, but during this period prices were fluctuating and price lists had to be corrected constantly.

The chain store showed the greatest expansion of any type, especially after 1914. Between that date and 1929 the number of stores in chain systems increased from 24,000 to nearly 200,000. After that the number declined and there was a tendency toward concentration, as in the super-market. This specializes in food products which it offers at low prices, making its profits in large volume of sales and economies of cash payments and self-service by its patrons. About three-quarters of the chains deal in groceries, drugs, tobacco, and variety articles, but groceries make up over one-half all chain store business. Success brought denunciation by hard-pressed or incompetent independent storekeepers, and anti-chain legislation was passed by some of the states. The economies to consumers of this method of retail distribution were, however, too obvious for such a movement to succeed, and the more reasonable independents began to organize their own systems of co-operative buying, and to introduce other economies in selling and credit.

Co-operatives represent another type of buying and selling organization. These have appeared at different times in our history, never very successfully, but after World War I they gained new significance, especially among the farmers. Down to about 1920 co-operation was carried on by members of independent associations, but after that date the local units began to be centralized in national organizations. State and federal funds were allotted to farmers' co-operatives, which handled an increasing share of the members' sales and purchases. By 1930 such associations were selling one-quarter the wheat, one-third the cheese, and 85 per cent of the

citrus fruit of California. Although the farmers did not buy as much co-operatively as they sold, they used this method in the purchase of farm machinery, gasoline, and similar lines. In the cities co-operation was never widespread nor successful, perhaps because of the efficient service rendered by other retail outlets. Our experience in this respect differs markedly from that of Britain, France, Germany, and other European countries, where co-operatives transact a large part of wholesale and retail business.

In 1929 about two-fifths of the retail trade was carried on by 4200 department stores, 7800 chain stores operating 145,000 units, and 271 mail-order houses, while the other three-fifths was handled by about 1,300,000 independent stores. The last group accounted for about the same proportion of net sales. It is evident, therefore, that in spite of the competition of other types of operation, the small retailer is still a factor to be reckoned with, especially in such lines as clothing, furniture, groceries and meats, restaurants, filling stations, coal yards, and drug stores.

Probably no part of our economic system is undergoing more far-reaching changes and readjustments than is the organization of the retail trade. This has been called the "last great frontier of business." One marked change is the extension of the trading area. The increasing use of the automobile and the construction of good roads have widened the trading area from perhaps 5 to 150 miles. This has meant a shift from the village store to one located at a larger town, where motion picture shows are also to be enjoyed. Advertising has helped to eliminate the traveling salesman and to shorten the route between producer and consumer. It combines ballyhoo with education, and makes it easier to sell nationally advertised products. The consumer was until recently poorly protected against misrepresentation, but the Food, Drug, and Cosmetic Act of 1938 compelled honesty of statement in advertising these three lines. The cost of advertising at the end of the prosperous 1920's amounted to over \$1500 million. The decade of the 1920's saw a great expansion of instalment buying. An investigation by Professor E. R. A. Seligman showed that about 13 per cent of the total retail sales in 1925-1927 were made in this way,

especially in the case of automobiles, radio sets, washing machines, vacuum cleaners, and mechanical refrigerators. The crisis of 1929 and the subsequent depression put a damper on this method of trade expansion, which has been still further accentuated by the entry into World War II by the United States in 1941.

Perhaps the most striking feature of our present system is its costliness. A recent estimate³ of these costs as revealed by the 1929 census put them at 59 per cent of the total cost of the goods. In that year the goods brought to market were valued at \$65,600 million but it cost \$38,500 million to distribute them, of which the largest item was retail trade. In other words, it cost more to distribute the goods than it did to produce them. Any change in methods which can reduce these expenses and eliminate the waste must be welcomed.

Foreign trade and World War I.—World War I had a transforming effect upon our foreign trade, of which one of the most striking was its enormous expansion. After the first temporary disorganization upon the outbreak of the war, orders began to pour in from Europe for foodstuffs, for raw materials of all kinds, and finally for actual munitions of war. This increased demand was not due to the superior excellence or cheapness of our goods, nor to the capture of foreign markets by well-planned selling methods. It was caused rather by the cessation of peace-time industry in Europe, which caused the Allied belligerents to turn to this great neutral country for material assistance. The excess of exports over imports, which had remained fairly steady for a decade, now jumped from \$470,653,000 in the year ending June 30, 1914, to \$1000 million for 1915, to \$2000 million in 1916, and to \$3600 million in 1917. Not only was the volume greatly expanded, but the character of the trade also underwent a remarkable change. The expansion took place, as might be expected, primarily in the group of commodities which ministered directly to war needs, such as explosives, munitions of every sort, canned goods, meat and dairy products, and similar items. As during the Napoleonic wars, when the United States had supplied the wants of the bel-

³ The Twentieth Century Fund, "*Does Distribution Cost Too Much?*" (New York, 1939).

ligerents, so now the industries of this country were organized to meet the new situation. On the other hand, our imports from the belligerent countries fell off, as their energies were absorbed more and more fully by their own immediate needs. The statistics of merchandise exports and imports for selected years since 1914 are given in the following table :

FOREIGN TRADE OF THE UNITED STATES, 1914-1940 (In millions of dollars)					
Year ending Dec. 31	Exports of merchandise	Imports of merchandise	Excess of exports over imports	Percentages of total exports formed by	
				Agricultural products	Manufac- tures
1914	2114	1789	325	40.0	31.1
1920	8228	5278	2950	42.3	34.7
1925	4910	4227	683	36.9	37.5
1930	3843	3061	782	31.5	50.2
1935	2283	2048	235	29.4	43.5
1940	4022	2626	1396	13.0	57.9

As a neutral nation the United States insisted upon its right to trade with any of the belligerents or with other neutrals. Owing to the early disappearance from the seas of Germany's merchant marine and the blockade of her ports little was furnished direct to the Central Powers, though a considerable quantity of American munitions and other supplies found its way to them through neutral ports. British interference with this trade, though irritating, never resulted in a diplomatic breach between the two countries. But when German submarines began the policy of sinking American merchant vessels trading with belligerents hostile to that country, President Wilson declared that a state of war with Germany existed. As in 1812, so again in 1917, the leading neutral nation was forced by the aggression of foreign belligerents to take up arms in defense of its commercial rights on the high seas.

With the entry of the United States itself into the war, there was a slight falling off in the figures of our foreign trade, for some of the supplies which we had formerly sold to the belligerents were now shipped with the American Expeditionary Force, and some of the ships which formerly carried goods were now used as transports. Under the control of the War Trade Board, moreover, ships as well as exported goods to the neutral countries were strictly rationed, while imports were limited by the lack of cargo space. Over 60 per cent of all the exports went to our European Allies, but comparatively little was bought from them, since they had little to spare.

After the signing of the Armistice there was a cessation in our shipments of war supplies, but this was more than counterbalanced by the heavy exports of foodstuffs, raw materials, and manufactured goods to the former belligerents. The need of Europe for these supplies was so desperate and so urgent that they were bought in large quantities at inflated prices. The high point, both of exports and of imports, was reached in 1920, but the crisis of that year halted the expansion. After that there was a decline until 1928. It is possible, however, to exaggerate the importance of our foreign trade by fixing attention upon the enormous totals. Relatively, it is much less important to the United States than to most other countries. Our exports in 1929 per capita were only \$42 as compared with \$132 for Canada, while our imports per capita amounted to only \$35 as compared with \$134 for the Netherlands. In 1940 our exports amounted to only \$29 per capita. It is possible that foreign goods do not constitute in excess of 5 per cent of the commodity consumption of the average American. It must not be overlooked, however, that among our imports are many articles that are vital to our industry and our war needs and which we do not produce.

Foreign trade and the depression.—Beginning with 1930 there was a steady and rapid fall in our foreign trade, exports declining even more rapidly than imports. The intense nationalism that was developing in the European states, as well as in our own country, led to the enactment of hostile tariff legislation, the deflation in the United States

put additional obstacles in the way of our export trade, while the general world depression reduced purchasing power. World trade in 1939 fell to a third of its amount in 1928. The commerce of the United States suffered severely, and no branch was harder hit than the exports of foodstuffs whose value dropped in 1932 to one-tenth their high in 1920. Meat products fell to one-fifteenth the 1920 figures, wheat and flour to one-sixteenth, and even tobacco and cotton declined to one-quarter and one-third respectively. By 1942 there had been a considerable recovery from these low figures.

The figures of the depression period are so abnormal that in picturing the development of our foreign trade it seems desirable to utilize the statistics of the census year 1929 in order that they may be compared with other branches of economic activity.

Exports and imports.—The basis for our trade with the rest of the world is found in large measure in the wealth of our natural resources. Although the United States contains only 6 per cent of the world's population and 7 per cent of the land area, it produced over one-half of the world's supply of natural gas (95 per cent), petroleum (70 per cent), sulphur (80 per cent), copper (51 per cent), aluminum (60 per cent), zinc (50 per cent), mica (62 per cent), cotton (53 per cent), and Indian corn (70 per cent). On the other hand, we lack certain minerals, as tin, nickel, tungsten, platinum, potash, and some others, and of course cannot grow tropical products like rubber, or foodstuffs like tea, coffee, bananas, spices, and similar things. These differences in natural endowment and in climate guarantee permanent and growing trade between the United States and other countries.

The six leading exports from the United States in 1929, in the order of their importance, were the following: raw cotton, machinery, petroleum, automobiles, iron and steel products, and wheat and flour. The industrial maturity of our manufactures is evidenced in this list, although agricultural and mineral products both bulk large. The most spectacular growth in exports—as also in domestic production—has been in automobiles. Not mentioned in 1900, automobiles, parts, and accessories made up over one-fourth

the exports of manufactures in 1929 and over one-ninth all exports.

Although the total exports of the United States exceed in value those of any other country, our per capita exports are comparatively small. Professor Moulton estimated that in 1929, a year of expanding commerce, only six non-manufacturing industries exported as much as 25 per cent of their output and that only six manufacturing industries exported in excess of 10 per cent of their product. Evidently the exporting interests are not yet sufficiently dominant to effect a change in our traditional tariff policy.

The imports present quite a different picture and show the extent to which we levy on the rest of the world for goods which we either do not produce at all or produce in insufficient quantities for our needs. The most important imports in order of value in 1929 were the following: silk, coffee, rubber, sugar, paper and pulp, and copper.

The character of the imports into the United States serves after all to give additional proof of the development of American domestic manufactures, almost all the increase being confined to crude materials for use in manufacturing, or to foodstuffs. Most of these are on the free list, and the tendency therefore is for other nations which buy our exports to pay us back in the things which we are most willing to take.

PERCENTAGE OF EXPORTS AND IMPORTS, 1860-1940				
Year	Exports		Imports	
	<i>Crude materials for use in manufacturing</i>	<i>Manufactures ready for consumption</i>	<i>Crude materials for use in manufacturing</i>	<i>Manufactures ready for consumption</i>
1860	63.8	11.3	11.2	48.7
1940	11.3	57.9	38.5	15.5

The shift in our interests between 1860, when we exported raw materials and imported manufactures, and 1940, when we export manufactures and import raw materials, is well illustrated in the preceding table.

A shift in our exports from agricultural to manufactured commodities occurred in the twentieth century, and as a result our trade with Europe, whose industries are similar, has declined relatively; in 1940 we sent only 40 per cent of our exports there and received only 15 per cent of our imports from that section. European countries too were raising tariff barriers against American manufactures. Trade with Canada, Cuba, and Mexico grew more rapidly than that with Europe, but that with the Far East, especially Japan, which in 1939 ranked fourth as a buyer of our exports and second as a supplier of our imports, showed the greatest relative expansion. In these countries, with different industrial development and climatic conditions, markets were being successfully sought for our varied manufactures. The imports of the twentieth century were also influenced by the growth and diversification of our manufacturing industries. New sources of supply for raw materials were being sought in all parts of the world; though many of these were shipped to us from Europe they originated largely in non-European countries. Some of the tropical or sub-tropical countries which were sufficiently developed industrially to carry on continuous production on a considerable scale furnished also food-stuffs and semi-luxuries; such were Japan, China, Malay States, India, Philippines, Cuba, Mexico, Brazil, and Argentina.

This was the picture before the outbreak of World War II; on the whole regional specialization had taken place and different countries were exchanging their surplus commodities with one another to the benefit of all. War has now interrupted the plan and distorted the picture. Imports come from countries that can spare them, exports go to those that can be reached. Freedom of intercourse no longer exists and statistics of foreign trade measure military and naval strength rather than willingness to buy or excellence of wares.

The balance of payments.—It has been estimated that at the outbreak of World War I the people of the United States were indebted to the people of Europe to the amount of about \$6000 million. During the next three years our favorable balance of trade amounted to over \$7000 million, and it may be concluded that this enormous sum canceled

the foreign investments and wiped the slate clean of the accumulated debts of past years. After our entrance into the war the government of the United States advanced to our Allies some \$10,000 million, and private loans and investments of American capital were subsequently made in Europe, Central and South America, and other parts of the world to an amount of some \$16,000 million.⁴ The whole of the war debt and about \$2000 million of private loans have since been repudiated or lost, so that in 1939 the people of the United States were creditors of the citizens of other nations for a sum estimated in round numbers at about \$14,600 million. From this should be subtracted, however, about \$7500 million of foreign capital invested in this country.

The significant feature of this conclusion is not the size of the sum, but the changed relationship of the United States to the rest of the world which it implies. To be a creditor nation means the receipt by citizens of this country of surplus income from sources outside the country itself; it means normally larger imports than exports. The full effects of this changed relation have been delayed by the continued investment of enormous sums by Americans in other countries, so that we are still exporting more than we import; we have become a lending and investing nation. Sooner or later, however, we may expect that in this country, as in the case of Great Britain, France, and other creditor nations before the war, imports will exceed exports, and the merchandise balance of trade will become "unfavorable." This will undoubtedly have an influence upon our traditional attitude of hostility to imports.

In the meantime, European nations have been settling their debit balances by shipping us gold. In the seven-year

⁴ According to Dr. Max Winkler, these were distributed as follows:

Europe	\$5,108,000,000
Canada	4,389,000,000
Central America	2,936,000,000
South America	2,786,000,000
China, Japan, and Philippines	926,000,000
Miscellaneous	459,000,000
<i>Total</i>	<u>\$16,604,000,000</u>

"Prosperity and Foreign Investments," in *Foreign Policy Association Information Service*, Vol. VI, Supplement No. 1, May, 1930.

period 1934-1940, inclusive, the net imports of gold into the United States amounted to almost \$12,000 million, raising our stock of gold to over \$20,000 million or nearly three-quarters of the world's monetary supply.

Leading ports.—The widening geographical lines of our foreign trade during this period were owing not only to the extension of the sources of supply of our imports and the expanding markets for our exports, but quite as much to the internal development of the country. All these factors have affected the routes taken by our exports and imports and have given prominence to different ports at different times. In 1860 the greatest value of domestic merchandise exports left the country through New Orleans, owing to the great value of the cotton crop; New York City ranked second, but was followed by three other southern ports, Mobile, Charleston, and Savannah. By 1900 New York City and New Orleans had changed places and third rank was taken by Galveston; then followed Boston, Baltimore, Philadelphia, and San Francisco. The south Atlantic ports lost in importance, not only because of the westward movement of cotton-growing, but also because the time for a voyage thence to Europe was relatively greater when the steamship began to be the carrier and took a direct route, independent of trade winds and the Gulf Stream. Little change was made in this ranking by 1940, but the growth of trade with South America and Asia was making the Pacific ports more important, while the growing volume of exports to Canada was diverting some of the trade to the Lake ports.

The imports were much more concentrated in the Atlantic ports than were the exports, though this dominance lessened somewhat as the origin of our imports widened. In 1860 New York handled 70 per cent of the country's entire import trade; this proportion was 63 per cent in 1900 and 32 in 1938. As the point at which converged the chief ocean steamship lines, and from which radiated the important railroad lines, this city offered unrivaled opportunities as a distributing center. The import trade of Boston and Philadelphia also grew rapidly, but that of the Gulf ports barely maintained itself. The trade on the Pacific coast, on

the other hand, flourished greatly, giving San Francisco fifth place in 1940 as an importing center. Increasing quantities of imports also entered the country through the Lake ports.

Assistance to foreign commerce.—Much has been done in the United States of recent years to facilitate foreign commerce, especially the export trade, in the apparent belief that somehow exports contribute more to a country's welfare than do imports. The tendency of our commercial treaties has been to grant concessions to other nations in exchange for favors to ourselves, and thus to modify the severity of our tariff barriers. The consular service has been reformed by being placed under civil service rules, and made of real service to the business men of the country instead of being used as a reward for party services. The creation of the Department of Commerce and Labor (1903) and later the establishment of a distinct Department of Commerce (1912) inaugurated a new policy with respect to foreign trade. Special agents of the Bureau of Foreign and Domestic Commerce instituted valuable investigations and reports upon trade conditions in foreign countries. Chambers of Commerce and Boards of Trade all over the country made organized efforts to arouse an interest in and promote knowledge of our foreign markets ; while a national Chamber of Commerce was organized of one member from each leading commercial and industrial organization representing the principal lines of commerce and industry throughout the country, which co-operated with the federal departments, and did much to promote trade expansion. The Pan-American Union stimulated trade with Latin America. The development of branch banks and the establishment of foreign connections by our leading international houses gave the benefits of distant credit facilities to exporters. Finally, the establishment of more direct steamship lines, the laying of ocean cables, and harbor improvements, were all favorable influences in the extension of American commerce. The international unification of weights and measures through the adoption by the United States of the metric system, already in general use in Europe, would be an advantage to our manufacturers.

Certain developments in the twentieth century promised to give the United States a more commanding position in the world's markets, especially in the Orient. These were the acquisition of the Philippines as a trading base, the completion of the Trans-Siberian railroad, the industrial awakening of Japan and China, the building of the Panama Canal by the United States, and the more energetic efforts to obtain foreign markets for the surplus of American manufactures. On the other hand, with all our natural advantages, we were handicapped in our competition with European rivals by our failure to adapt ourselves to the prejudices of foreign customers, by our backwardness in commercial and technical education, and by our restrictive tariff policy. An important reform was the establishment in June, 1934, of free ports or free zones in our ports where a larger transshipment or re-export trade could be built up than was possible under former restrictive customs regulations.

In spite of the pressure of economic forces and of comparative costs of production in different countries, world trade has seldom flowed freely, least of all in the United States. During World War I our exports rose enormously in response to government advances of credit to foreign countries, but equivalent imports were not received. The virtual repudiation of the war loans after 1930 converted these exports into a gift. During the period 1924-1929 private industry and individuals made reckless and indiscriminate loans abroad, especially to Germany, which were delivered in the form of exported commodities. The same fate has overtaken them. With the outbreak of World War II, especially after our entry into it on December 8, 1941, the United States again became the arsenal of Europe and the Lend-Lease Act of March 11, 1941, made our resources subject to the needs of the democratic nations. It is evident that our foreign trade has been made to serve political as well as commercial ends, and it has become increasingly an instrument of economic warfare. Even before the attack on Pearl Harbor by the Japanese about 95 per cent of our exports were under license, while government control over shipping placed foreign trade under practically complete regulation. It may be accepted that government control of

exports and imports will be further extended to serve military ends.

The merchant marine.—American shipping had steadily declined between 1860 and 1914, and as a nation we had come to rely to an ever greater extent upon foreign vessels to carry our ocean trade.

World War I created new conditions and new opportunities. Within two weeks after its outbreak Congress eliminated the five-year age limit on vessels seeking American registry, permitted such vessels to retain their foreign officers, and in other ways modified the former exclusive policy. Under these liberal provisions about 175 vessels sought the protection of the neutral American flag, bringing the tonnage under American registry up to 1,871,543 in 1915, and 2,191,715 in 1916. The disappearance of the German merchant marine from the sea, the diversion of British and French vessels into war service, and the sinking of many of these by German submarines, all greatly reduced the number of vessels available for carrying our commerce, which was at the same time increasing by leaps and bounds. What was needed was an immediate increase in ships and the construction of new tonnage.

Congress responded in 1916 by the creation of the Shipping Board, which was given important regulatory powers over shipping, and was authorized to acquire merchant vessels and to sell or charter them to citizens of the United States. Immediately after we entered the war it organized the Emergency Fleet Corporation for the purpose of building new ships. An ambitious program, calling for the delivery of 3256 ships of 18,249,520 dead weight tons, was laid down, and after a time-wasting debate over the relative merits of steel, wood, and concrete ships, construction was finally begun in earnest. The race between the submarines and the shipbuilders ended with the Armistice of November 11, 1918, but the construction of vessels for the Emergency Fleet Corporation continued until some 1500 vessels had been launched. By 1920 the total sea-going merchant marine of the United States consisted of 4889 vessels of 13,789,874 gross tons; included in this number were some of the former German ships, which were turned over to this

government after the war. The United States was now second only to Great Britain as a shipping nation.

The antagonism of private shipping interests to government ownership and operation of the Shipping Board vessels resulted in the passage of the so-called Jones Merchant Marine Act of 1920, which provided for their lease or sale to private shippers. The concrete and wooden vessels were scrapped and their value written off as a cost of the war. Eventually, many of the better steel vessels were sold to private companies, about 10 per cent of the original cost being recovered by the government.

Other methods of stimulating shipbuilding were mail subsidies and the granting of federal loans at low rates of interest for new construction or reconditioning, but neither was effective. The mail contracts were tainted with fraud and little new building was undertaken. Meanwhile the war-time merchant fleet was becoming obsolete, and the usable tonnage was declining.

In 1936 a new Merchant Marine Act was passed. Under the terms of this act the federal government was authorized to pay part of the cost of building new ships and to loan most of the balance at 3.5 per cent interest. Operating subsidies were also to be given. Ships receiving such aid would automatically become available for national defense. The purpose of this act was not so much to enlarge the merchant fleet as to replace the rapidly aging and obsolete vessels with modern ships of reasonable cargo capacity and speed. In spite of this encouragement the demolition and retirement of old ships went on faster than new building and there was a steady decline in the number and tonnage of United States vessels. The development down to 1941 is shown in the table on page 814.

The defense program of 1940, and especially the entry of this country into World War II in December, 1941, completely changed the situation. Merchant ships were built and launched at the rate of one a day to keep open the "bridge of ships" between this country and Britain. Some of these were standardized stopgap craft, quickly built, but most of them constituted permanent additions to the merchant marine—sea-going ships, tankers, Great Lakes car-

THE AMERICAN MERCHANT MARINE*						
(1000 gross tons)						
Year	Sailing		Steam		Total	
	No.	Tons	No.	Tons	No.	Tons
1915	10,753	2446	15,948	5,944	26,701	8,390
1920	9,369	2501	18,814	13,823	28,183	16,324
1925	7,730	2430	18,637	14,976	26,367	17,406
1930	6,099	2300	19,115	13,768	25,214	16,068
1935	6,424	2118	18,495	12,535	24,919	14,653
1940	7,708	2665	19,504	11,353	27,212	14,018

* Bureau of Marine Inspection and Navigation, U. S. Department of Commerce.

riers, and other types. All these better vessels were powered with steam turbines or diesel engines. The program called for 8,000,000 tons of merchant ships in 1942 and 10,000,000 tons in 1943, by which time the United States would have a merchant fleet equal to that of Britain or even surpassing it.

Tariff legislation.—The Underwood tariff of 1913, which had somewhat moderated duties, never had a fair chance to demonstrate its virtues, for imports were reduced and deranged during World War I. Just as during the War of 1812, when foreign goods were cut off and new domestic industries sprang up, so now the manufacture of articles formerly obtained from Germany and other countries was given an opportunity to develop with little competition. After the Armistice there was a sharp rise in imports, mostly of commodities on the free list, but this was seized upon by the "war babies" and the established industries as an excuse to demand more protection.

Upon the inauguration of a Republican president in 1921 the dominant party at once proposed a revision of the tariff upward. The great fall in the prices of agricultural products in 1920 and the consequent hard times for the farmers led to a demand for protection to farm products. Accordingly, the so-called Emergency Tariff was passed in 1921 which imposed duties on wheat, corn, meat, sugar, cotton, wool, and many other agricultural products. This was re-

placed the following year by the Fordney-McCumber Act, which raised the level of duties above that of the Underwood Act, but below that of the Payne-Aldrich tariff, or to about 38 per cent. The principle already enunciated in the Republican platform of 1904, that "the measure of protection should always at least equal the difference in cost of production at home and abroad," was further elaborated, and a new argument advanced to meet the new conditions in Europe. This time it was urged that, owing to the depreciation of foreign currencies, the countries with cheap money enjoyed an advantage in manufacturing over the United States, which alone had maintained its currency on the gold standard; import duties would therefore have to be increased in order to protect American industry against cheaply produced foreign goods.

The comprehensive character of the act may be judged by the boast of Senator McCumber that "every industry in the country is fairly and justly protected." Increased protection was given to agricultural products and to most manufactured wares. Pig iron, steel rails, and other articles in the metals schedule, which were admitted free by the Underwood tariff, were again given protection, but the textile group was not much changed. Particular attention was given to the so-called "war babies," such as the chemical and dye industries which had developed during the war, and they were given ample protection. The free list included such articles as coal, coffee, hides, iron ore, newsprint paper, cement, etc. The removal of most food products from the free list led one writer to declare that the only things on the average citizen's breakfast table not subjected to higher tariff duties "are his coffee and his drinking water." A new feature of this act was the "flexible tariff" provision by which the President was given power to increase or decrease duties not in excess of 50 per cent in either direction, upon recommendation of the tariff commission. Acting under this authority President Coolidge in 1924 raised the duties on wheat and flour.

Continued agrarian discontent, which was now well organized and militant, forced another revision of the tariff in 1930. Originally designed as a partial revision to afford

protection to agricultural products, the House bill was seized upon by manufacturing interests to obtain special favors for themselves in every direction. Determined opposition of the agricultural bloc in the Senate, however, eliminated many of the increases to manufactures except to some depressed industries, but retained the higher rates on agricultural products. Hides and cement were removed from the free list, but the flexible provision, allowing the President to make certain changes upon recommendation of the tariff commission, was retained. As finally passed, the Hawley-Smoot Act fixed the average rate of duties at about 41 per cent.

Protests against this measure were immediate and showed a revulsion against continued tariff favors to the manufacturing group. A petition signed by over 1000 economists urged the President to veto the bill because of the obstacle it would place on exports, the likelihood of tariff reprisals by other countries, and the strain it would put on international relations. That these fears were not idle was shown by the prompt action of Canada in raising rates on goods which were imported principally from the United States. Other countries put up their bars against American exports, by high duties, quotas, or other methods. Even Great Britain, the citadel of free trade, enacted protective legislation, and the depression revived interest in reciprocity. No effort was made to revise the tariff, but in 1934 a Trade Agreements Act was passed. The President was given power, without referring the matter to Congress and its pressure groups, to make reductions of tariffs and other trade barriers in return for trade concessions from other countries. This was called a "Yankee swapping" measure, and was essentially a bargaining program with the objective of increasing our trade with foreign countries in both directions by reducing excessive barriers on both sides. Passed originally for three years, the act has been extended to 1943. It is difficult to measure the results of the agreements, but the volume of trade with agreement countries increased more than that with others. By the end of 1941 some twenty-two countries had made such agreements under the leadership of Secretary of State Cordell Hull.

Even while these efforts were being made to increase our

foreign trade, events were occurring that threatened to curtail if not to destroy it. The outbreak of the war in Europe and a strong peace movement in this country led to legislation designed to emphasize our isolation and our neutrality. In 1934 the Johnson Act had forbidden loans to governments in default on their debts to us, and an amendment of 1936 imposed an embargo on loans to all belligerents. The non-interventionist policy found expression in the Neutrality Act of 1937, which aimed to exclude American citizens as fully as possible from any commercial or financial dealings with belligerents that might involve this country in war. This prohibited the export of arms, ammunition, and implements of warfare to belligerents, repeated the embargo on loans, and laid down the "cash and carry" policy for our export trade. According to this, exports to belligerents were not permitted until title to the goods had passed to the foreign buyer, who must then carry the goods away in a foreign vessel. This policy was intended, in the words of Senator Borah, "to avoid all risks, all danger . . . but to get all the profits." But the climax of our isolationist attitude was reached in the Neutrality Act of 1939, which forbade American vessels to trade with belligerents, withdrew government protection from American citizens venturing into combat zones, and made it unlawful for vessels in the merchant marine to be armed. This abdication of our rights as a sovereign nation on the high seas "gave the green light to international gangsters to go ahead," but did not protect us. It was repealed on November 17, 1941, just three weeks before Japan, Germany, and Italy declared war on the United States. The policy of isolationist neutrality had proved a dismal and dangerous failure.

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CHAPTER XXXI

FINANCE AND CURRENCY

Capital formation.—The constantly improving standard of living of the nation was to be attributed primarily to the growing use of machinery and other equipment in almost all fields of industrial activity. Such machinery and equipment is known as “capital” as was explained in an earlier chapter. Capital can be had only through saving ; that is, by refusing to spend all income for immediate enjoyment. According to Dr. Simon Kuznets the net capital formation between 1920 and 1934 was about 8 per cent of the national income.¹ Much of this was accumulated by corporations which regularly plowed back part of their earnings to improve the efficiency and enlarge the capacity of their plants. The table on page 820 shows the extent of these savings between 1909 and 1936. In addition persons with incomes over \$2000 and especially over \$10,000 a year contributed heavily. Many of these savings were routed to industry through purchases of life insurance, through deposits in savings accounts, and through investment in securities. Life insurance premium collections rose from \$82,000,000 in 1919 to \$263,000,000 in 1939 ; savings bank deposits grew at an average annual rate of \$1000 million between 1910 and 1930 ; and new capital measured in terms of domestic security issues grew from \$187,000,000 to \$667,000,000 between 1919 and 1929 but dropped off sharply in the succeeding decade. Foreigners had \$7500 million exclusive of war debts invested here in 1939, which was approximately the same amount as in 1914, but Americans had \$14,600 million invested abroad and the nation enjoyed a sizable creditor balance instead of carrying a huge debt, as had been the case before 1917.

¹ S. Kuznets, *National Income and Capital Formation, 1919-1935* (New York, 1937), 52-53.

CORPORATE SAVINGS* (billions of dollars)			
Year	Amount	Year	Amount
1909	1.3	1927	1.0
1912	1.2	1929	2.2
1915	2.1	1930	-4.3
1917	4.7	1932	-8.0
1919	4.3	1934	-2.5
1921	-2.7	1936	-.8
1923	2.4	1938	-1.9
1925	2.9	1939	

* Figures for the years 1909-1929 are from H. G. Moulton, *America's Capacity to Consume*. (Washington, Brookings Institution, 1934), 109, and from the National Industrial Conference Board, *The Economic Almanac for 1940*, 308, for 1930-1938. Their figures overlap for the years 1916-1929 and show only unappreciable differences for that period. For example, the Conference Board figures for 1921, 1925, and 1929 were -2.8, 3.0, and 2.3 billions respectively.

The capital that has been accumulated has of course varied in character and in rate of growth. Huge savings of the prosperous 1920's were a source of anxiety, as was the decline in private capital growth in the depression-ridden 1930's. Wars call for a different type of capital goods than do peace-time eras. The effect on capital of five periods may be noticed; namely World War I, the golden 1920's, the Great Depression, the "New Deal" experiment, and World War II.

Effect of World War I.—The exigencies of World War I, particularly after our entry on April 6, 1917, necessitated a rapid shift on a gigantic scale in the direction of our industrial activity. People were called upon to work hard, to buy war savings stamps and Liberty bonds, and to reduce their consumption of certain articles like meat, wheat, sugar, chocolate, etc. To finance the war \$6000 million of internal revenue taxes were levied over and above peace-time needs and \$20,000 million of Liberty bonds were sold. Portions of this liquid capital paid for the enlargement or alteration of existing plants or the construction of new ones. Many plants were converted to the production of war necessities. "Plants for making gas holders were converted into munitions plants; carpet plants began to make blankets and duck; automobile factories made airplanes; refrigerator plants were

converted into plants for making Navy filing cases and field hospital tables. . ."² Some of these changes were easily accomplished, others required vast amounts of new capital. And on top of all this it must be remembered that much of this new machinery was of emergency value only, was intended primarily for purposes of destruction and not of production of the good things in life, and that some existing equipment, like the railroads, were operated with little thought to efficient maintenance. Thus, even if the nation's capital supply increased in this period, generous allowance must be made for its altered nature.

Saving in the prosperous 1920's.— Following the Armistice business had to shift again to peace-time activities, which meant that each of the above plants scrapped some of its recently acquired machines and installed the old ones again. Some companies, like the Du Ponts, had remarkable success in salvaging their war-time equipment and turning it to post-war usefulness, while other plants, such as those engaged in shipbuilding, were faced with almost a complete loss. Such adjustments were of course one factor causing the short but severe depression of 1921. That was followed by eight years of extraordinary prosperity, during which production increased, the standard of living improved noticeably, profits were general, and vast sums were saved.

There are two schools of thought with regard to the savings accumulated during this period. One school, represented in academic circles by Harold G. Moulton, President of the Brookings Institution, and in political circles by President F. D. Roosevelt and many of his so-called "brain trust," believe that the panic of 1929 and the depression that followed are attributable to over-saving. Moulton challenged the assumption that money savings enter the market as a direct demand for capital goods and claimed that such savings are merely a supply available for the construction of additional plant and equipment if the prospects are promising but are not necessarily so employed. Since capital goods measured in terms of corporate surpluses did not show a more than proportionate increase in the 1920's and savings did show a huge increase, "the excess savings which entered

² B. Baruch, *American Industry in the War* (New York), 1941, 41-42.

the investment market served to inflate the prices of securities and to produce financial instability.”³ The other and more orthodox school regarded the savings of the 1920's as a chief cause of the prosperity that existed and regretted that the same conditions did not return in the 1930's. However, regardless of whether one accepts or rejects the theory of over-saving, it must be recognized that belief in it in influential circles had a profound effect on the governmental policies of the nation in the next decade.

Spending in the depressed 1930's.—The depression that succeeded the panic of October, 1929, was characterized by a falling off in virtually all kinds of expenditures, whether for consumer's goods or producer's goods, plant equipment or savings accounts. As the months passed business mag-

EXTENT OF BUSINESS DECLINE OF 1929-1933			
Item	1925	1929	1933
Index of value of department store sales*	103	111	67
Index of pig iron production†.....	93	108	34
Corporate savings in millions of dollars‡..	1,575	2,320	-4,481
New security issues in millions of dollars§.	300	667	13
Increase in savings deposits in millions of dollars¶||.....	1,945	-195	-3,155
Bank failures**.....	590	587	2,397 (1932)
Unemployment||.....	817,000	429,000	12,744,000

* *Statistical Abstract of the United States*, 1940 (Washington, 1941), 885.

† *Standard Statistics Co., Basic Statistics*, 1936, D27.

‡ *National Industrial Conference Board, The Economic Almanac*, 1940 (New York, 1940), 308.

§ *Ibid.*, 143.

¶ *Ibid.*, 299.

** *75th Annual Report of Comptroller of Currency* (Washington, 1938), 796, because of bank holiday complications 1933 figures are not comparable.

|| *Ibid.*, 110-111.

nates, economists, and political leaders repeatedly expressed the opinion that the worst had passed. President Hoover's phrase that "prosperity is just around the corner" and his belief that all that was needed was a restoration of business confidence will long be remembered. But each eagerly awaited upturn behaved like a distant cloud in the "dust

³ H. G. Moulton, *The Formation of Capital* (Washington, Brookings Institution, 1935), 157, 159.

· bowl" that appears, arouses hope, and then evaporates, leaving greater despair than before. Few concerns of any sort were able to add new capital, many companies could not keep up what equipment they had, and of course there were numerous failures. According to the Treasury Department, 83 per cent of all manufacturing corporations operated at a loss in 1932. The so-called heavy industries, those engaged in construction work, in iron and steel, in making machinery and equipment, in coal-mining for industrial use, and in transporting freight were hit hardest by the depression. Unemployment mounted every year for four years, reaching nearly 13,000,000 in 1933 and might have been much worse had not many companies drawn upon surpluses gathered in more prosperous years. As much was spent in private deficit financing between 1930 and 1933 as had been accumulated between 1917 and 1929.

With the inauguration of Franklin D. Roosevelt as President on March 4, 1933, and the initiation of numerous "New Deal" experiments, the depression appeared to fade. The country's new leader exuded confidence, and he adopted the attitude that action was essential. A majority of the people welcomed him enthusiastically and continued to idolize him although many business men soon distrusted him. There were reasons for this distrust. Although he had repeatedly pledged his adherence to the Democratic platform plank advocating "a sound currency to be preserved at all hazards," he had been in office less than two months before he engineered permanent abandonment of the gold standard. Although he had roundly criticized the deficits of the Hoover administration and promised to cut expenditures by one-quarter, he was soon piling up the greatest peace-time deficits the country had ever known, averaging over \$3000 million a year during his first term. In his inaugural address he implied that the plight of the nation was the fault of the bankers and business men toward whom he afterward maintained a hostile attitude, relieved only occasionally by so-called "breathing spells." And throughout this period taxes crept higher and higher in accordance with the widespread belief that the rich had ample to finance the "New Deal's" expensive humanitarian program and with the already men-

tioned theory that over-saving had caused the last depression and might produce another. To eliminate the danger of over-saving Congress in 1936 passed the so-called Corporation Surplus Tax to induce corporations to pay out most of their annual profits in dividends. Business men protested vigorously, and cited numerous instances of companies growing regularly by their own thrift, the case of the Ford Motor Company being the outstanding illustration. The law was subsequently modified. The above business man's viewpoint of the "New Deal" shows clearly enough why corporate savings were negative during the 1930's and why business men hesitated to embark on new ventures.⁴ If he gained, his profits would be taxed away from him, and if he lost, he had less opportunity to recover through the profits from another venture.

World War II.—The outbreak of World War II saw the nation in a much worse condition economically than had World War I. Whereas in 1914 the country had a national debt of less than \$2000 million, in 1939 it exceeded \$35,000 million; whereas corporations had enjoyed surpluses for years before 1914, they had been using up their capital for a decade before 1939; for example, freight cars in service on Class I railroads had declined from 2,300,000 in 1929 to 1,600,000 in 1939. And whereas before 1914 the necessity for more government regulation of business was realized and being acted upon in a reasonable manner, there had been a spirit of almost intense hostility between government and business for six years before 1939, which boded ill for the harmonious co-operation needed in the critical months to come. However, despite these handicaps, the capital resources of the United States were far greater than those of any enemy or ally. According to *Fortune Magazine*, energy harnessed from electric and mineral resources exists in greater abundance in the United States than in any other nation. Every American commands an average of 153 energy slaves, in contrast to an average of 41 for every Briton before the war, 27 for every German, 11 for every Russian, and 4 for every Japanese and Chinese.⁵ Success in arms of course de-

⁴ See page 820.

⁵ Estimates by R. B. Fuller, *Fortune Magazine* (Feb., 1940), 163.

depends on how wisely these tremendous supplies of capital are directed.

The corporation.—The revolutionary changes in business that have taken place in the last century and a half, including the mobilization of ever larger supplies of capital, were facilitated by the corporate form of enterprise. The size and character of the corporation itself have altered as the needs of business have dictated. The year to year changes have been scarcely noticeable, but over a generation and more certain trends stand out quite clearly. Five of these deserve brief examination.

GROWTH OF THE CORPORATE FORM OF BUSINESS IN MANUFACTURING*		
<i>Date</i>	<i>Per cent corporations</i>	<i>Per cent of total value of product that were made by corporations</i>
1904	23.6	73.7
1909	25.9	79.0
1914	28.3	83.2
1919	31.5	87.7
1929	48.3	92.1
1939	51.6	92.4

* Twentieth Century Fund, *Big Business: Its Growth and Its Place* (New York, 1937), 15, and Sixteenth Census, Manufacturing, Types of Organization.

(1) The percentage of businesses using the corporate form has increased. The accompanying table shows that the number of incorporated manufacturing establishments nearly doubled between 1914 and 1929. A similar increase was recorded for mining and quarrying establishments and a strong tendency to incorporate was also observed in merchandising and building construction. Agriculture remained largely on a basis of individual ownership, as did professional and personal services.

(2) The percentage of total income produced by corporations has increased. By 1929, according to the Twentieth Century Fund, 57 per cent of the national income was produced by corporations. The vast majority of mining and quarrying, manufacturing, transportation and public utility

income came from corporations ; about one-third of construction companies and of service business income originated with corporations, and as much as 6 per cent of agricultural income was from this source.

(3) The size of corporations increased because the many technical improvements of the industrial and transportation revolutions called for such vast quantities of capital and it was further affected by the consolidation movement that set in toward the end of the nineteenth century. Another such movement occurred between 1919 and 1928 when at least 1268 mergers and probably many more took place in manufacturing and mining alone, involving the union of 4135 separate concerns and the disappearance of 5991. By 1933 it was estimated that less than 600 of the country's largest corporations, those reporting total assets of \$50,000,000 or more, owned over one-half the corporate wealth. The giant corporations were especially dominant in transportation and public utilities, finance, and manufacturing.

(4) As the corporations grew in size, the number of stockholders increased enormously, until by 1928 the number of book stockholders of American corporations totaled 18,000,000 and it was estimated that from 4 to 7 million individuals held stock. Much of this change took place in the five year period between 1916 and 1921, when people of large incomes sold a sizable portion of their ownership of American industry to people of more moderate means. World War I produced this revolutionary change by imposing heavy income and excess profits taxes on the one hand, and on the other hand by educating thousands to invest in securities. The table on page 827 shows the increase in number of stockholders in the nation's three largest corporations. Moreover, in no one of these concerns did the largest stockholder own as much as even 1 per cent of all the shares outstanding.

(5) The question will doubtless occur to most students at this point, "Who controlled such corporations and how was it done?" In a small corporation the controlling individual or element must have 51 per cent of the stock to be safe, but in the case of large companies whose stock is widely dispersed and whose stockholders are extremely difficult to organize effectively a much smaller percentage is all that is

COMMON STOCKHOLDERS OF THREE OF THE LARGEST AMERICAN CORPORATIONS* (in thousands)			
Date	American Telephone and Telegraph Co.	Pennsylvania Railroad	United States Steel Corp.
1901	12.0	28.4	24.6
1914	58.1	90.5	49.5
1920	132.9	127.9	89.4
1929	458.2	174.2	109.3
1932	694.2	250.2	189.8
1938	644.7	213.3	168.4

* 1938 Supplement, *Survey of Current Business*, 78, except for 1901 which is from A. Berle and G. Means, *The Modern Corporation and Private Property* (New York, 1932), 55.

necessary. Control of corporations is sometimes exercised by subtle legal devices; for example, only a small proportion of the stock may carry voting privileges. An investment of about \$2,000,000 in such stock of Dodge Brothers, Inc., enabled Dillon, Read and Company to control this \$130,000,000 concern in 1925. But the most popular method is known as management control and is based on the use of proxies. In 1930, 44 per cent of the 200 largest companies in the country made use of this device, whereas only 5 per cent depended on majority ownership.⁶

Investment banking.—The financial mechanism of the nation had to be greatly enlarged during World War I, with the consequence that in many ways the United States became the world's leading power in finance. The number of holders of securities grew from 200,000 before the war to 20,000,000 afterward; nearly 12,000,000 individuals subscribed to Victory loan bonds alone. During the war Europeans sold back to us the bulk of securities they held and sold us thousands of their own, which is another way of saying that the country ceased being a debtor nation and entered upon the creditor phase. Not only did our government lend its allies nearly \$10,000 millions during the war, but another \$10,000 millions, representing about one-sixth of our total

⁶ This material was drawn from A. Berle and G. Means, *The Modern Corporation and Private Property* (New York, 1932), Part I, chap. 5.

financing, was invested abroad between 1920 and 1928. Except for the Liberty bonds it was through investment banks that most of these securities reached the public. Such banks were found only in large cities, New York, Chicago, Philadelphia, and Boston being the leading four in the order mentioned.

Beginning in 1911 there was a new development in the field of investment banking known as the "investment affiliate." The Comptroller of Currency disapproved a certain national bank's assisting investment banks in the sale of securities, so the national bank organized a separate company under its control for that purpose. The system was widely copied, especially after 1927, and in 1930 affiliates sponsored over one-half all the new securities issued. An affiliate took the place of the bank's bond department and was preferred because it was hampered by fewer legal restrictions; for example, it could handle a wider variety of securities, could establish branches, and could borrow from the bank with which it was affiliated. But there were also dangers inherent in the system. Affiliates might borrow too heavily when they could not market their securities immediately. Furthermore, it was claimed that bankers sometimes encouraged customers to purchase securities which their affiliate had been unable to dispose of. Accusations of this sort were frequent after the stock market crash of 1929, which saw security prices on the New York Stock Exchange quartered between 1929 and 1932.

Soon after the Franklin D. Roosevelt administration came into office in 1933, legislation was drawn up to remedy some of these evils. The Banking Act of 1933 required commercial banks to divorce their investment affiliates and forbade investment banks to engage in deposit banking. Banks had to choose between the two lines of activity. The Securities Act of 1933, designed to protect the buyer of securities, required the registration of all new security issues, forbade the use of misleading statements in any form of advertising or the omission of essential facts, and put the administration of the law in the hands of the Federal Trade Commission. This responsibility was later transferred to the Securities and Exchange Commission. Registration with the commission did

not of course guarantee the goodness of a security issue. The filing of numerous blanks and the fear of severe penalties for violation of the Securities and Exchange Act made big business leaders and distributors of securities realize that a revolution had taken place in their affairs; the old rule of "Let the buyer beware" had been supplanted by the new one of "Let the seller beware." Commendable as this was in many ways, it had the unfortunate effect of deadening activity in the long term capital markets. Although fraudulent issues were largely eliminated, so also was the financing of some experimental projects, the success of which in the past had furthered the technical advance of the country.

Stock exchanges.—Persons with savings to invest not only buy new securities, they may purchase on a stock exchange old issues that are being offered for sale; and, conversely, such exchanges provide a market for those wanting to sell. Records of these transactions published almost daily give the best possible idea of what various securities are worth. In 1929 the New York Stock Exchange handled 58 per cent of the share transactions of the nation, the New York Curb Exchange 25 per cent, and the Chicago Stock Exchange placed third with 4 per cent. Thus, it is not surprising that cities other than New York are usually ignored when stock markets are discussed. During the last generation the New York Stock Exchange not only increased in size and improved technically, but during the busy and prosperous 1920's numerous new records were established. The number of securities listed doubled between 1908 and 1938, and whereas in the former year twice as many bonds were listed as stock, in the latter year the numbers were about equal. Industrial stocks, of which only twenty were listed in 1898, became much more numerous and active. The membership of this private organization grew and the value of a "seat" on the exchange skyrocketed to a high of \$625,000 in the boom year of 1929, but three years later its value had fallen to a mere \$68,000. Two crises shook the New York Stock Exchange: the outbreak of World War I started such an avalanche of European-held American securities that the exchange was obliged to suspend operations for over four months; and the outbreak of panic in October 29, 1929,

which saw a record volume of 16,400,000 shares traded in one day, also necessitated suspension.

Since it was a private organization, the New York Stock Exchange was self-governing: it determined who might become a member, passed and enforced regulations governing the behavior of members in their stock dealings, and decided what stocks and bonds might be "listed" for trading on the floor of the exchange. Probably the vast majority of the more than 1000 members were reasonably law-abiding, but the crimes of a few, one of them Richard Whitney, President of the Exchange, combined with the collapse of stock prices after 1929 and the widespread prejudice against Wall Street, led to an irresistible demand for closer control of a business that was obviously deeply affected with public interest. The Securities and Exchange Act of June, 1934, required the registration of all stock exchanges with a Securities and Exchange Commission appointed by the President. In addition to stricter rules covering the brokerage business, it attempted to limit the amount of speculative credit available and thus prevent the recurrence of another unhealthy boom.

Commercial banking.—Experiments and reforms in the field of short term credit were even more startling in the period from 1914 to 1942 than were those in the field of long term credit or investment banking. There had long existed dissatisfaction with the national banking system, which had been established during the Civil War, because it failed to meet the expanding needs of business. Beginning in the nineties, criticism of this system had been growing, and finally culminated in the appointment in 1908 of the National Monetary Commission, to investigate banking and currency systems throughout the world and to propose a plan for legislation. After five years of discussion of the general problem, the Federal Reserve Act was passed on December 23, 1913. It took some time to organize the new system, but on November 16, 1914, the present Federal Reserve System went into effect. It overcame the two main evils of the national banks—inelasticity and lack of co-operation—and gave the United States its third experiment in central banking.

Let us assume that the demand for money varies with the

needs of business ; when industry and commerce are expanding more money is needed, and when depression comes the supply of money should contract. This had not been true of the national-bank note circulation, which had been singularly inelastic and unresponsive to business demands, since the amount of notes which a national bank could issue had depended upon the amount of government bonds which it held. Under the Federal Reserve System, however, the member banks may obtain federal reserve notes in any amount by rediscounting with the regional Federal Reserve Bank the commercial paper of merchants, manufacturers, and others to whom they have made loans. Thus, if there is a brisk demand by business men for funds, the banks can expand their note issues, provided the Federal Reserve Banks agree and hold a 40 per cent gold reserve.⁷ However, under our modern credit system, in which 85 per cent of our transactions are carried on by means of checks or other credit devices, banknotes no longer occupy the conspicuous position they did a century ago, and consequently the provisions for elasticity, valuable though they are, have not the force they would have had even at the time of the establishment of the national banking system.

The centralization of the banking system is more important. No country in the world had so many independent banks—27,000 in 1929—as the United States. About one-third this number were brought together in the Federal Reserve System, but these 9000 banks controlled two-thirds of the banking resources of the country. It was found impossible on account of political difficulties to establish a single great central bank, like the First or Second Bank of the United States, but a grouping or system was created which ensures a certain amount of co-operation and unity. All the national banks were compelled to join the Federal Reserve System, and state banks might do so if they conformed to its requirements ; all member banks were grouped into twelve regions, over each of which a Federal Reserve Bank was set up which kept the legal reserves of the member banks, discounted their commercial paper, and issued Federal Reserve

⁷ After the devaluation of the gold dollar in 1934 this reserve consisted of gold certificates and other reserves of "lawful money."

notes to them. Thus the Federal Reserve Banks were bankers' banks—their relationship to member banks was analogous to the member banks' relationship to customers. In times of emergency the district Federal Reserve Bank is a place where a member bank with good security but insufficient liquid assets may obtain the loan of additional funds. Only rarely do individuals deal with Federal Reserve Banks. At the head of the Federal Reserve System stands the Board of Governors, which is charged with the general administration of the whole system, and which gives a unity of policy. It must be regarded as little short of providential that the Federal Reserve System was put into operation so soon after the beginning of World War I, for without its aid the enormous government loans and other features of war finance could not have been carried through so successfully, if at all.

The United States remains a country of many individually owned banks in contrast to Canada, which has a few large branch systems. The largest number of banks was 30,812 in 1921, but 1930 recorded the largest total resources. The

THE DEVELOPMENT OF BANKING INSTITUTIONS DURING THIS PERIOD,
AS GAUGED BY THEIR NUMBER AND TOTAL RESOURCES*
(Dollars in millions)

<i>Banks</i>	1910	1920	1930	1932	1939
National banks.....	No. 7,145 Res. 9,897	8,030 23,276	7,252 28,872	6,150 22,361	5,209 33,180
State Banks, Loan & Trust Cos., and Stock Savings Banks.....	No. 14,378 Res. 8,741	20,690 23,720	15,860 34,180	12,192 23,640	9,321 27,847
Private banks.....	No. 934 Res. 160	799 213	361 115	227 55	64 775
Mutual Savings Banks.....	No. 638 Res. 3,652	620 5,619	606 10,295	594 11,134	552 11,799
<i>Total Banks</i>	No. 23,095 Res. 22,450	30,139 52,828	24,074 74,462	19,163 57,245	15,146 73,601
Member Banks of Federal Reserve System.....	No. —	9,606	8,052	6,816	6,362

* *Statistical Abstracts of the United States*, 1940 (Washington, 1941), 251, 256-58.

rise and fall of these two items followed the fluctuations of the business cycle during this period. Especially noteworthy were the violent oscillations in the number of state banks and the virtual disappearance of the private banks. Mutual savings banks alone showed an uninterrupted increase in resources, which not even the depression could stop. It will be observed, however, that while the number of banks was constantly declining, bank resources were growing; between 1910 and 1939 the average resources per bank climbed from \$1,000,000 to about \$5,000,000. Although bank failures accounted for the disappearance of more banks than did consolidations, the latter cause was important. In the main, consolidations have been effected to produce a more powerful bank, although in the early 1930's the rescue of weak banks was a frequent motive. Out of this some enormous banks have emerged: in 1939, thirty-six New York member banks held over 20 per cent of all the banking resources, and the National City Bank alone recently had about 4 per cent. Three New York City banks now have resources of over \$1000 million each. Although branch banking has not been important outside a few states like California, there was a remarkable growth of group banking in the 1920's; 273 chains or groups controlled nearly 2000 banks and made about 20 per cent of the loans and investments in 1929. Thus the trend toward bigness was being pursued in banking as well as in many other lines.

The most disquieting aspect of commercial banking in the last generation has been the enormous number of bank failures. The worst record was made by the small state banks in the agricultural states, whose assets were frozen in farm mortgages and similar uncollectible loans. The largest number of failures in 1932 was in Iowa, with 147, Michigan 87, and Missouri 80. The confusion of commercial banking and investment banking, quite different in principle, was largely responsible for this breakdown of the banking system, just as it had been in the 1830's.⁸

One of the basic principles of the Federal Reserve System was that bank credit should be founded on commercial paper so that it would contract and expand automatically with busi-

⁸ See page 373.

BANK SUSPENSIONS			
<i>Year or Period</i>	<i>Total Banks</i>	<i>Non-Member</i>	<i>Total Deposits</i>
1921-29	5714	4719	\$1,625,000,000
1930-32	5102	4067	3,260,000,000
1933	4004	2729	3,599,000,000
1934-39	291	276	126,000,000

ness needs. An example of such paper is a promissory note signed by a shoe store to finance its spring stock of shoes and which the store expects to pay off through the sale of the shoes. Unfortunately, the supply of commercial paper was never adequate to support the country's thousands of banks, and this was especially true after World War I. Commercial banks in search of an outlet for their surplus funds invaded the domain of investment banking, using the investment affiliate already described. Banks sometimes made extensive loans to their affiliates and then put up their eligible paper for rediscount at their district Federal Reserve Bank to secure additional funds to lend the affiliate so that it could buy more securities. If the public stopped buying or the market faltered, the bank found itself loaded with a highly unsatisfactory asset. Many banking houses suffered thus after 1929. Another abuse occurred when big city banks had their affiliates refund into a bond issue loans that had originally been made to corporations or railroads on a short term basis and that had been repeatedly renewed but never collected. Such issues were marketed sometimes through out-of-town banking connections and occasionally sold at reduced prices to favored individuals on "preferred lists." As has already been pointed out, these conditions produced the Securities Act of 1933 and the Securities and Exchange Act of 1934.

Emergency banking legislation.—By the beginning of 1933 there was general distrust of the banks. It was remarked with more bitterness than humor, "Yesterday I got back a check stamped 'No Bank' instead of the usual 'No Funds.'" Failures were increasing in number and people

were withdrawing their deposits and hoarding currency. Between January 1 and March 4, 1933, it is estimated that hoarded currency increased by \$1500 million. Panic spread and runs occurred even on sound banks. In order to save them from ruin the banks were closed. On the day on which President Roosevelt assumed office all the banks were closed in thirty-two states, most of them in six, and in the remaining seven operation was permitted only under restrictions of the banking departments.⁹ The first step of the President was to proclaim a national banking holiday, thus keeping the banks closed until emergency banking legislation could be enacted. All stock and commodity exchanges also remained closed.

On March 9, 1933, the Emergency Banking Act was passed. This authorized large additional issues of Federal Reserve Bank notes, so that there would be no money stringency, required all persons to surrender their gold to the federal treasury, provided for conservators of closed banks, and empowered national banks to issue preferred stock which they might sell to the Reconstruction Finance Corporation if they were in need of cash. Beginning on March 13 sound banks were permitted to open and within a week banks having three-fourths of the deposits of the country were running as usual.

The Banking Act of 1933 was more fundamental and revolutionary. This provided for a limited guarantee of all bank deposits, it divorced commercial and investment banking, permitting an institution to carry on either but not both. It empowered member banks to establish branches in those states (twelve in all) which by state law permitted it. The act prohibited the payment of interest on demand deposits, and provided for closer regulation of national banks. Each of these provisions was aimed against a specific abuse and some of the reforms were long overdue.

But the Banking Act of 1933 was not broad enough in scope to satisfy a number of government financial leaders, among them the Governor of the Federal Reserve Board, Marriner S. Eccles, who believed that greater concentration of power in the hands of the Board was necessary to accom-

⁹ See ref. on page 834.

plish the task of credit control. The Banking Act of 1935 was in considerable part his handiwork. Title I revised the deposit insurance system of the earlier law, limiting protection to \$5000 per account. In 1938 this safeguarded 98 per cent of all depositors and 45 per cent of the total deposits. Although deposit insurance schemes had failed in seven states, and although it was not based on sound insurance principles, and would undoubtedly have collapsed if it had been in existence in 1932-1933, nonetheless the plan had significant merits. The Federal Deposit Insurance Corporation did much to restore and maintain confidence in banks, it helped enforce better banking practices, and it served as a device to force more banks to join the Federal Reserve System, where control would be even more effective. State non-member banks with deposits averaging \$1,000,000 or more had to join the Federal Reserve System by July 1, 1942, if they expected to have the benefits of deposit insurance. Title II, the most important section, altered the name of the Federal Reserve Board to the Board of Governors of the Federal Reserve System and greatly increased its powers of credit control. Existing legal reserve requirements against deposits could be increased to the doubling point if desirable. The Board was badly in need of this power if it was to maintain its authority over member banks, many of whom had accumulated large excess reserves during the depression and were in a position to be very independent.

World War I finance.— Little attention has been given in previous chapters to government finance, but the financial transactions during World War I were on such a gigantic scale and have since affected the fortunes of every individual so profoundly that it is desirable to describe them briefly. Although the United States was the last of the major belligerents to enter the war, the expenditures by this government at once rivaled and soon surpassed in magnitude those of the other warring countries. The total expenditures attributable to the war, including advances of about \$10,000 million made by the United States to our Allies, have been stated by the Treasury as about \$32,830 million. This is twice as much as the total expenditures of the federal government during the first one hundred years of our national

existence, including those for the War of 1812, the Mexican War, and the Civil War.

To obtain these enormous sums it was necessary to resort to taxation and to borrowing on an unprecedented scale. In 1913 an amendment to the Constitution had permitted the imposition of a federal income tax, and Congress had provided for one in the Revenue Act of October 3, 1913. This, together with the excess profits tax on business, formed the backbone of the revenue system during the war; and these were supplemented by an inheritance tax and internal revenue duties which were expanded until they touched practically all luxuries and many necessities of life. The progressive principle of taxation was applied, by which the larger incomes or profits were taxed at a higher rate than the smaller ones. Thus the highest rate in the income tax was 67 per cent and in the excess profits tax was 65 per cent; that is, the government took two-thirds the income above a certain amount and left only one-third to the owner. The revenues raised by taxation during the war amounted to less than one-third the sums needed, the highest figure for any one year being \$4658 million in 1919. The difference between the tax revenues and the expenditures was raised by loans.

As in the Civil War, loans were the main dependence of the government. Five bond issues were floated, the first four of which were called Liberty loans, and the fifth, which was issued after the Armistice was signed, the Victory loan.

WORLD WAR BOND CAMPAIGNS

First Liberty loan.....	\$ 1,989,000,000
Second Liberty loan.....	\$ 3,808,000,000
Third Liberty loan.....	\$ 4,176,000,000
Fourth Liberty loan.....	\$ 6,964,000,000
Victory loan.....	\$ 4,498,000,000
	<u>\$21,435,000,000</u>

These enormous sums were obtained from practically every class in the country, the number of individual subscribers running up to 22,000,000 persons in the fourth loan, when war enthusiasm was at its height. In addition to the bonds, whose lowest denomination was \$50, war savings certificates

for \$5 and thrift stamps for 25 cents were also sold. The debt of the United States reached a peak on August 31, 1919, when it stood at \$26,596,701,648 or about \$250 per capita. After that it was steadily reduced at the rate of about \$1000 million a year and on January 1, 1930, stood at \$16,300 million.

Financing the "New Deal."—The next occasion to call forth huge government expenditures was the great depression that began in October, 1929. For three years thereafter business conditions had grown progressively worse and the administration of President Hoover had been unable to relieve the economic plight of the people materially. Perhaps no one could have done so and doubtless Hoover was unduly blamed, but in any event the people wanted a new administration and a new approach to the problem. When Franklin D. Roosevelt became President in March, 1933, he and his advisers took the view that the depression with its millions of unemployed constituted another national emergency such as World War I.

Soon advocates of reform and of recovery were vying with one another for the adoption of expensive programs. The theory was widely held in government circles that economic recovery would be promoted and unemployment reduced if the lag in private business activity were compensated by increased government expenditures. Accordingly, a Public Works Administration under the direction of Secretary of Interior Ickes was established with an appropriation of \$3300 million in 1933; in 1935 Congress appropriated \$4880 million for a second public works program, which was further supplemented by a grant of \$1425 million in 1936 and \$789 million in 1937. Alphabetical agencies were spawned for every imaginable purpose, each with its grant of several millions or even hundreds of millions of dollars. Some were much-needed and sensible reforms, others were downright luxuries and thinly disguised make-work schemes. The table on page 839 contains a list of some of the more outstanding, with a brief explanation of their cost and purpose.

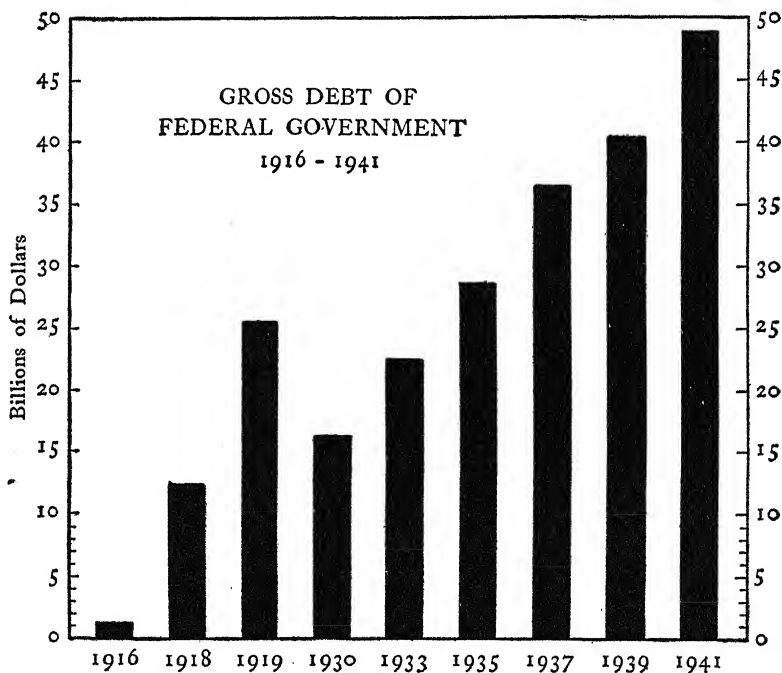
Some, like the F. H. A., C. C. C. (Commodity Credit Corp.), and R. E. A., made loans which optimists expected would be liquidated eventually, others like the W. P. A.,

SOME GOVERNMENT AGENCIES OPERATING UNDER THE
"NEW DEAL"*

<i>Agency, date of founding, and function</i>	<i>Expenditures (including loans) 1935-39 (in millions of dollars)</i>
Agricultural Adjustment Administration (1933), the A. A. A., revised by 1938 act, intended to lessen "overproduction" in agriculture	\$ 2,920
Civilian Conservation Corps (1933, 1937), the C. C. C., devoted to reforestation, etc., made up of young men who would otherwise be unemployed	1,925
Commodity Credit Corporation (1933), also the C. C. C., helps farmers finance, market, or hold over their agricultural surpluses	191
Federal Emergency Relief Administration (1933), the F. E. R. A., disbursed direct relief to the needy, largely succeeded by W. P. A. after 1935	2,335
Federal Housing Administration (1934), the F. H. A., insures lending institutions against losses on house building and repairs, thus encouraging low-cost housing	69
Farm Security Administration (1935), the F. S. A., succeeded earlier Resettlement Administration, completes and manages homestead projects, helps sharecroppers and tenants to become owners	717
National Youth Administration (1935), the N. Y. A., provides part-time employment to young people, some of them seeking to complete their education. Part of W. P. A.	255
Public Works Administration (1933), the P. W. A., helps finance construction of large public projects with the purpose of promoting and stabilizing employment (W. P. A. and Army and Navy expenditures deducted)	7,494
Rural Electrification Administration (1935), the R. E. A., helps finance building of electricity distributing lines in rural areas to improve rural standards of living	49
Social Security (1935), the S. S. intended to provide old-age pensions for American workers, and to give unemployment compensation. Only administrative expenses and grants to states included here	854
Tennessee Valley Authority (1933), the T. V. A., one purpose of which is to provide electric power and discover fair rates for electricity	146
Works Progress Administration (1935), the W. P. A., provides work relief for unemployed, famous for make-work schemes ("boondoggling") and its high construction costs (N. Y. A. expenditures deducted).	6,518
	<u>\$23,473</u>

* *Statistical Abstract of the United States, 1940* (Washington, 1941), 169-79, 358.

C. C. C. (Civilian Conservation Corps), and N. Y. A. yielded their benefits without hope of repayment in dollars. Total expenditures by the federal government between 1934 and 1939 were \$27,000 million greater than between 1924 and 1929 and the difference was almost entirely attributable to the cost of the "New Deal" program. This was a dollar cost approximately equivalent to that of all government outlays including wars between 1789 and 1916. The change in the federal debt is graphically portrayed below.



National Industrial Conference Board, *The Economic Almanac*, 1941-42 (New York, 1942), 362.

The question arises, "Who paid for all this and how?" As with a war, the generation that suffered from the depression paid for it. And, as with a war, there were three methods of financing the emergency—taxation, borrowing, and inflation. Government revenues, largely derived from taxation, paid for roughly *three-fifths* the government expenditures. Of these taxes, about 40 per cent were collected in

various kinds of internal revenue, and most of the rest in customs duties and Social Security taxes. The other *two-fifths* of this huge six year outlay was obtained largely by government borrowing and represented a considerable increase in the public debt. Some government bonds were bought by wealthy men because the interest on them was tax exempt, by conservative investors and by insurance companies, but primarily by banks of every description. At the end of 1939 over 40 per cent of all earning assets of member banks were United States government obligations. Banks bought government bonds for various reasons, but an important one was that they were one of the best paying investments available. Monetary inflation through the coinage of several hundred million more cheap silver dollars had a very minor part in financing the government's program. Paper money inflation was simply too crude for this modern age and although \$3000 million greenbacks were authorized by the Thomas Amendment to the A. A. A., they were not issued. Instead, a more subtle type of monetary inflation was employed, a type developed during World War I, inflation of bank deposits subject to check and to a lesser degree of Federal Reserve notes. Demand deposits in member banks increased from \$17,500 million to \$29,000 million between 1934 and 1939, some of this rise being attributable to improved business conditions, but the bulk was written on bank ledgers to pay for government bonds. Only the increasingly sluggish turnover of these deposits prevented a noticeable price inflation.

Financing World War II.—The transition from depression financing to war financing was gradual and it is difficult to draw a satisfactory demarcation between them. The expiration of the Washington Conference on the Limitation of Naval Armaments in 1936 led to increased expenditures on our Navy, especially after 1938; the outbreak of World War II on September 1, 1939, stirred the country to greater armament expenditures for defense; the fall of France in June, 1940, and the subsequent threatened invasion of Britain drove Congress in the summer of 1940 to pass a draft law looking to the creation of an army of several million men and by the end of the year to appropriate \$10,000 million

for defense purposes. The following March Congress enacted the Lend-Lease Act by which \$7000 million was appropriated to assist England and her allies in the defeat of the Axis powers. The United States became the "Arsenal of Democracy," but the name did not prevent Russia and several Latin-American semi-dictatorships from receiving the benefits of the law. After the sneak bombing of Pearl Harbor on December 7, 1941, Congress declared war on Japan on December 8 and a few days later on Germany and Italy. All thoughts were immediately turned to winning the war. President Franklin D. Roosevelt repeatedly called upon Congress to vote the needed billions and tens of billions. New demands and appropriations changed the picture almost daily. Even as this chapter was being written Congress was passing a single bill almost without debate appropriating \$26,500 million for naval armaments alone. This is equal to the value of all the railroads in the country. Such tremendous outlays necessitate sacrifices in the form of a lower standard of living.

Monetary experimentation.—During the last generation economists have devoted much attention to the effects of changing price levels. Many nations, including this country, felt the effects of inflation during World War I and then of deflation in 1920–1921. During the remaining 1920's prices were fairly stable, but the depression following the panic of 1929 saw prices drop back to the 1913 level with many of the harmful consequences of deflation in attendance. Farmers suffered because the prices of their produce sagged more than the goods they bought, debtors found it increasingly difficult to pay their creditors, business was stagnant, and millions were thrown out of work. The deflation was a symptom of sickness in the body of the nation which would continue until certain poisons were purged from its system, in this case until over-expanded and inefficient business organizations were liquidated. A wise government, like a wise doctor, could ease the pain and perhaps speed recovery, but in the final analysis Nature was probably the most dependable healer. But many persons regarded the low prices as a cause of the depression and believed that if prices could be restored to pre-depression levels, prosperity would return

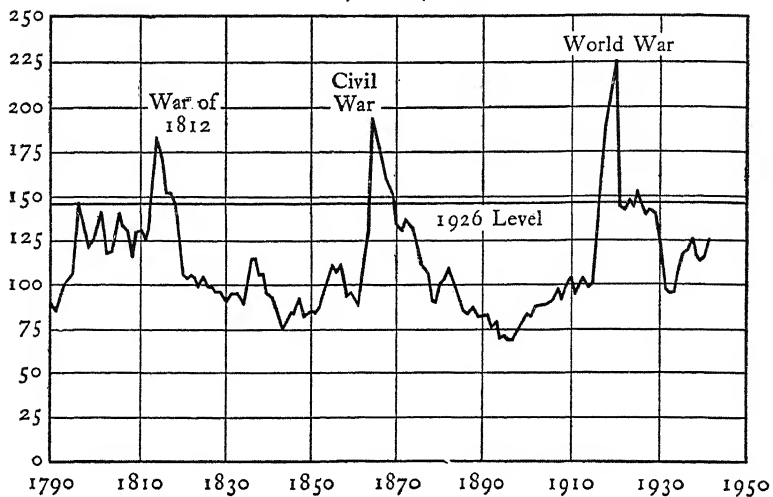
and would remain if the price level were kept stable. In his book, *Looking Forward*, President Franklin D. Roosevelt wrote, "The country needs and, unless I mistake its temper, the country demands bold, persistent experimentation." In the fifteen months following his inauguration the country was given a seldom-equalled example of daring innovations. In order to understand the legislation and administrative acts of this period it is necessary to state briefly the theoretical considerations which underlay them.

We are accustomed to think of gold as stable. We speak of price levels or indexes moving up or down, as though the price of gold were fixed and that of commodities and services fluctuated. A group of economists, both in this country and abroad, has long insisted that the gold dollar fluctuated rather than the prices of goods, and that the movements of the price level really registered the ups and downs in the value of the gold. They pointed to the world deflation or falling price level which occurred between 1929 and 1933, and insisted that it was owing to the scarcity of gold, upon which too great a strain was being imposed. The gold dollar, they claimed, was a cheating dollar. In order to maintain a stable price level it was therefore necessary to control and manipulate the amount of money and credit in circulation. President Roosevelt accepted these ideas and surrounded himself with advisers who held these views. In his letter of July 3, 1933, to Secretary Cordell Hull at the World Economic and Monetary Conference in London he stated that he favored "a stable dollar whose purchasing power will be the same in the next generation as now."

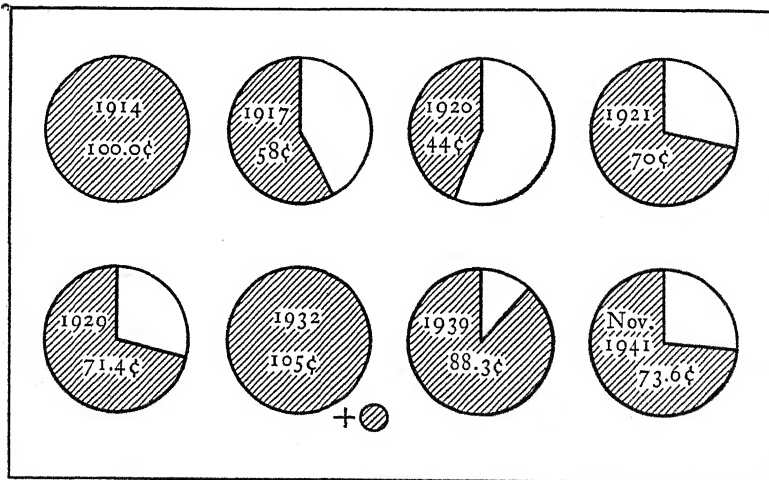
President Roosevelt was primarily interested in two practical problems, which seemed to be immediate and important. One was the problem of falling prices, particularly of agricultural products, and the other was the burden of existing indebtedness. As to the fact of falling prices there could be no dispute. The relatively stable price level of 1922-1929 had been followed by the deflation of 1929-1933, and the obvious answer to this problem seemed to many to be a return by inflation to the level of the 1920's, or, as they preferred to call it, reflation. There are only three ways of raising the prices of commodities: (1) increase demand—

WHOLESALE PRICES SINCE 1790

Av. 1910 - 14 = 100



PURCHASING POWER OF THE DOLLAR



Based on wholesale prices, Bureau of Labor Statistics.

but this was falling off; (2) lessen the supply—this was attempted in the agricultural program already described; (3) cheapen the money in terms of which prices are quoted. This last was the chief method adopted in dealing with the whole question of prices.

The other problem was that of debts. It was pointed out that while the production of wealth increased 60 per cent in the period 1913–1928, indebtedness increased 100 per cent. A careful study¹⁰ placed the internal debts of the country at \$120,000 million. Assuming a 6 per cent interest charge, the annual interest payments would absorb about 15 per cent of our national income of \$49,000 million. The burden of these debts, it was claimed, was crushing industry and agriculture. But they were not merely heavy; they were also unfair, for they were incurred at a time when prices were high (that is, when dollars were cheap), and now when prices were falling (that is, when dollars were dear) their payment required the giving up of more commodities or labor. Debts had, however, been incurred at different times and ran for various periods. How could equal treatment be accorded to all debtors? This was solved by taking the time center of mortgages and other debts created during the period of rising prices, which was estimated to be the year 1926. The objective was therefore to put prices back on the 1926 level, and the program adopted aimed at this end.

The first requisite of this policy of a managed currency was to go off the gold standard, and this was accomplished by a series of measures. By a Presidential proclamation of April 5, 1933, the hoarding of gold, bullion, or gold certificates was forbidden under heavy penalties and all gold must be surrendered to the federal treasury. On April 19 an executive order prohibited the export of gold, and Secretary Woodin announced that we were off the gold standard. On June 5 the gold clause in all public and private contracts, providing for payment of principal and interest in gold, was abrogated.

Gold had now been removed from all monetary use and placed under lock and key. The next step was to devalue the dollar; that is, to lower its value so that prices in terms

¹⁰ Clark Evans, *The Internal Debts of the United States* (New York, 1933).

of this cheaper dollar would rise. Authority for this was granted by the Thomas Amendment to the Agricultural Adjustment Act of May 12, 1933. This gave the President the following discretionary powers: (1) to authorize the Federal Reserve Banks to expand their credit by the open market purchase of government obligations up to \$3000 million; (2) to issue up to \$3000 million in United States notes; (3) to devalue the dollar as much as 50 per cent; (4) to fix a bimetallic ratio between gold and silver and provide for unlimited coinage at that ratio.

On July 3 President Roosevelt "torpedoed" the World Economic and Monetary Conference in London by refusing to stabilize the dollar at a point agreed upon with the European nations. "The sound internal economic system of a nation," he cabled, "is a greater factor in its well-being than the price of its currency in changing terms of the currencies of other nations."

The attempt to fix the value of the dollar in the United States began in October, 1933, at which time the Reconstruction Finance Corporation commenced buying domestic mined gold at \$31.36 per ounce (instead of \$20.67, the old mint price). At this price the dollar was devalued to about 66 cents. The price was steadily raised and purchases extended to foreign markets, and the exchange value of the dollar in terms of foreign currencies as steadily fell. The last step in this inflationary policy was taken by the passage on January 30, 1934, of the Gold Reserve Act, following which the President proclaimed the revaluation of the dollar at 59.06 cents in gold, which meant that the treasury would henceforth pay \$35 an ounce for gold.

Despite all this experimentation, wholesale prices showed only a moderate tendency to rise, increasing from 96 in 1933 to 109 a year later and to a high of 126 in 1937; after this, there was a decline to an average of 115 the following year and little change occurred thereafter until 1941. The desired level of 146, which was the average for the pre-depression "normal" year of 1926, was not reached, and what early rise did take place was attributable in part to the higher costs required by N. I. R. A. codes, to the crop destruction plans of the A. A. A., and to the droughts of 1933-1936. It was

adequately demonstrated that in the short run more than changes in the gold content of the dollar and the amount of money in circulation are needed to alter the price level. Nature is unpredictable, business men must have confidence in the future or they will proceed very cautiously. If business is not active, the velocity of money and deposit currency—that is, the speed with which it passes from hand to hand through spending—is slow, and that is just as important as the amount in circulation. What the long run effect of the devaluation experiment will be remains to be seen, but it is noteworthy that because of the depression, and because of the 41 per cent reduction in the size of the dollar and of the consequent higher price for an ounce of gold, the gold holdings of the government in terms of dollars rose from \$4300 million in 1933 to \$22,700 million in May, 1942. This sum represented about 75 per cent of the monetary gold in the world and an increase of about one-half in the world's supply of monetary gold—a tremendous advance when it is remembered that the gold supply is the accumulation of ages, very little of which is ever lost. Some economists fear that the impact of war on these enormous monetary reserves may cause a very startling price rise which will be extremely difficult to control.

Recapitulation.—The period from the beginning of World War I to World War II witnessed three national emergencies and one outstanding period of prosperity. During the wars peace-time capital was converted to armament uses and then with some difficulty had to be reconverted afterward. During the prosperous 1920's capital was accumulated rapidly but was sometimes unwisely directed into already crowded lines of production or even into speculative enterprises. Out of excessive stock market speculation and the after effects of World War I sprang the Great Depression that began in 1929. Reforms were instituted to control investment and commercial banks and stock exchanges, profits were limited, speculation discouraged, and even the building up of corporate, especially cash, surpluses was frowned upon. Owing to the depression and to government hostility to business, the rate of capital growth dropped sharply and corporations lived off their past savings.

The price level doubled during World War I, dropped sharply in 1921, remained stable for eight years, dropped further in 1932 to the 1914 level, and has since stumbled unevenly upward. Desire for a more stable dollar together with the belief that higher prices would bring back prosperity led to many monetary experiments in 1933-1934, chief of which was cutting the gold content of the dollar 41 per cent. This failed to raise prices immediately, but so stimulated gold production that inflation may be a long run consequence.

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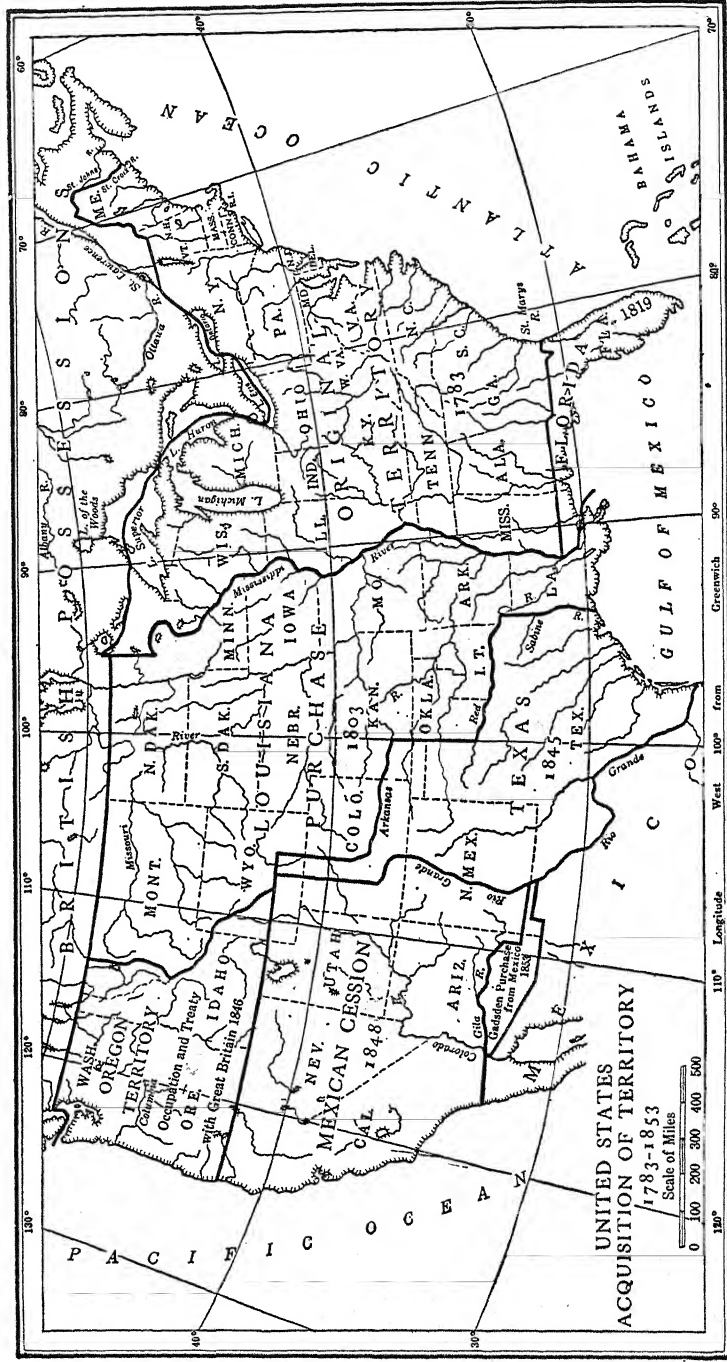
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CHAPTER XXXII

THE UNITED STATES AS A WORLD POWER

Territorial expansion.—From the beginning of its history, the United States has steadily expanded its territorial possessions until today it is four times as large as it was when it began its national existence. The area of the thirteen colonies—about 400,000 square miles—was more than doubled by the treaty of peace with Great Britain, when the lands west of the Appalachian Mountains which that country had wrested from France were ceded to the United States. The total area was thus made 892,135 square miles. It would seem that here was sufficient territory to satisfy the land-hungry farmers for many generations, for none of the land was occupied except by Indians and fur traders and a few daring pioneers. When, however, the opportunity presented itself in 1803 of purchasing the vast Louisiana territory the United States commissioners did not hesitate to conclude “the greatest real estate deal of history,” thereby again doubling the area of the United States. The Louisiana purchase added 827,987 square miles. It was not land hunger, however, that led to this act of expansion, but the necessity of controlling the navigation of the Mississippi River, especially at its mouth. Spain still retained the Floridas, but the weakness of her rule there made them a refuge of renegades and a nuisance to the neighboring states. They were therefore purchased in 1819, thus adding 72,101 square miles more to our national domain.

A quarter of a century later a series of events brought under the jurisdiction of the United States still more imperial possessions. In 1845 Texas, with 389,166 square miles, after winning her independence from Mexico, was admitted to the Union as a state. As a result of acts connected with these events war broke out between Mexico and the United States in 1848 and upon the defeat of the for-



TERRITORIAL GROWTH OF THE UNITED STATES, 1783-1853

mer she was compelled to cede a territory almost as vast—529,189 square miles—as the Louisiana purchase. This was slightly increased five years later by the Gadsden purchase, for the purpose of straightening out the new boundary line between the two countries and incidentally giving the United States the possibility of building a railroad into Southern California. Meanwhile the settlement of the boundary dispute with Great Britain gave us the Oregon territory with 286,541 square miles. These various accessions ended the expansion of contiguous territory, for the United States now stretched from the Atlantic to the Pacific oceans, and from the Great Lakes to the Gulf of Mexico, and there was no desire to dispossess our neighbors on either the north or the south. Some hotheads there have been who would have the United States push its boundaries to Hudson's Bay and to Panama, but they have never voiced the sober judgment of the nation. The continental United States was given its final limits by the purchase in 1867 of Alaska from Russia, in order to quiet the pretensions of that country to greater claims on the northwest coast. Next to Louisiana this was the largest addition, comprising as it did some 586,400 square miles.

While the United States was thus expanding physically from a few coastal settlements to a continental empire, it was being peopled by a rapidly increasing and vigorous population which was exploiting its resources and multiplying its wealth. Upon the national spirit of the people these repeated accessions of territory had an almost intoxicating effect, creating a feeling of expanding interests and of unlimited possibilities, to which was frequently given the name of "manifest destiny." This attitude explains the acquiescence—more frequently, the whole-hearted approval—of the American people in the policy of expansion down to the end of the nineteenth century. Most of this territory was bought, the United States being involved in war in only one case, that with Mexico in 1846. Moreover, the land was practically unoccupied, being only sparsely inhabited by some thousands of Indians who were pushed off to less desirable tracts as the better land was taken up in farms. This territorial expansion of the American people has frequently been

called *imperialism*, and it can without much difficulty be brought within the dictionary definition of that term, which reads "the policy or practice of seeking the extension of the control or empire of a nation." It was, however, different in character from the imperialism which sought to apportion densely populated regions of the world among a few European nations.

The year 1898 introduced a new phase in the territorial expansion of the United States, which was strikingly akin to the imperialism of Europe. This was the acquisition of non-contiguous territories. The first of these was the islands of Hawaii. Owing to their location and political weakness, several strong European powers had long had designs on these islands, which the United States viewed with uneasiness. Under pressure from American economic interests there a favorable opportunity was seized to proclaim their annexation to the United States, which was finally ratified in 1898. The same year witnessed the Spanish-American War, which was brought about by traditional sympathy for an oppressed people seeking to emancipate themselves from Spanish rule, indignation at the blowing up of the U. S. S. *Maine*, and the pressure of American capital seeking larger markets in Cuba. As a result of this war, which resulted in the utter defeat of Spain, we acquired the Philippines, Puerto Rico, and the island of Guam.¹ The following year we annexed Tutuila and its dependencies in the Samoan group of islands. The last two were valuable as coaling stations and stopping-places on the long voyage across the Pacific.

The acquisition of the Canal Zone in Panama was the result of strong-arm methods by President Theodore Roosevelt, who was impatient of the dilatory tactics and demands of Colombia, within which state the route of the proposed canal was situated. When the Colombian Senate rejected a treaty ceding the necessary strip of land, a revolution occurred which led to the establishment of the new republic of Panama. The administration at Washington at once recog-

¹ "It is true," wrote John B. Moore, "that the expansion of 1898 involved, so far as concerns the Philippine Islands, the taking of a step geographically in advance of any that has been taken before; but so far as concerns the acquisition of new territory, we were merely following a habit which had characterized our entire national existence." — *Four Phases of American Development* (New York, 1912), 147.

nized the new republic and, with what seemed to many unseemly haste, made a treaty by which the United States acquired practical sovereignty over a strip five miles wide on either side of the canal route, excepting the cities of Colón and Panama at either end. The final island addition to our national domain came in 1917 by the purchase of the Virgin Islands from Denmark. Mention should also be made of the naval bases acquired from Great Britain in August, 1940, in exchange for destroyers from our Navy, but these are probably not permanent possessions. The total area of the United States today is 3,738,393 square miles, of which 3,026,789 square miles are comprised within continental United States and the balance of 711,604 square miles constitutes our outlying territories and possessions. The territorial additions are shown in the following table :

TERRITORIAL EXPANSION OF THE UNITED STATES *			
(In 1776 the estimated area was about 400,000 square miles)			
<i>Territorial division</i>	<i>Year</i>	<i>Area added in square miles</i>	<i>Purchase price in dollars</i>
Territory in 1790.....	1783	892,135	
Louisiana Purchase.....	1803	827,987	15,000,000
Florida.....	1819	72,101	6,489,768†
Texas.....	1845	389,166	
Oregon.....	1846	286,541	
Mexican Cession.....	1848	529,189	18,250,000‡
Purchase from Texas.....	1850	\$	10,000,000
Gadsden Purchase.....	1850	29,670	10,000,000
Alaska Territory.....	1867	586,400	7,200,000
Hawaii Territory.....	1898	6,406	4,000,000¶
Philippine Islands.....	1899	114,400	20,000,000
Puerto Rico.....	1899	3,435	
Guam.....	1899	206	
American Samoa.....	1900	75	
Additional Philippines.....	1901	68	10,000,000
Panama Canal Zone.....	1904	549	10,000,000||
Virgin Islands.....	1917	133	25,000,000
<i>Total.....</i>		3,738,393	135,939,768

* Revisions in the figures in this table by the Census Bureau from time to time are due to more accurate maps.

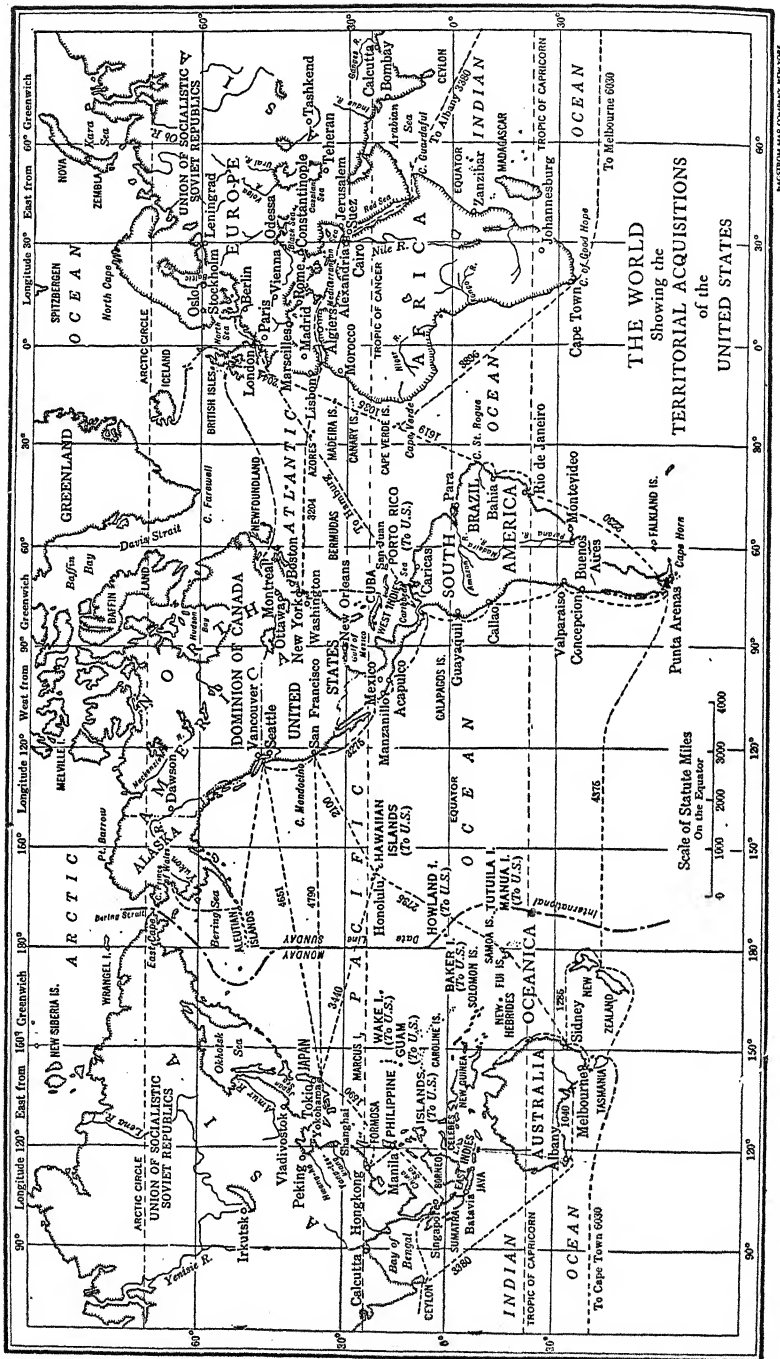
† Includes interest payment.

‡ Of this amount \$3,250,000 was in payment of claims of American citizens against Mexico.

§ Area purchased from Texas amounting to 123,784 square miles is not included in the column of area added because it became a part of the area of the United States with the admission of Texas.

¶ Public debt assumed.

|| In addition to this sum the United States paid Colombia \$25,000,000 in 1921.



The development of a foreign policy.—In the course of one hundred and sixty years of territorial expansion, our relations with other nations and our attitude toward international problems have undergone considerable change. The first formulation of a national policy was made by Washington, who warned against *permanent* alliances with foreign nations. "The great rule of conduct for us," said he in 1796 in his Farewell Address, "in regard to foreign nations is, in extending our commercial relations to have with them as little *political* connection as possible." He thought, however, that we might "safely trust to temporary alliance for extraordinary emergencies," and for this attitude he gave the following reason: "With me a predominant motive has been to endeavor to gain time to our country to settle and mature its yet recent institutions, and to progress without interruption to that degree of strength and consistency which is necessary to give it, humanly speaking, the command of its fortunes." Jefferson subsequently gave currency to the phrase "entangling alliances," against which later statesmen have so frequently warned the United States. In his first inaugural address he summed up his policy as follows: "Peace, commerce, and honest friendship with all nations, entangling alliances with none." The doctrine of isolation thus proclaimed served as a rule of national conduct for a century and is still invoked by many as the only safe guide in our international relations.

The next pronouncement was the Monroe Doctrine, which was contained in a message from President Monroe to Congress in 1823. There were at that time in Europe only five important states—Great Britain, France, Russia, Austria, and Prussia—and the rulers of the last four had formed an extraordinary "Holy Alliance," the purpose of which was the maintenance of autocracy and the suppression of political freedom. The American colonies of Spain had just thrown off the yoke of that country and there was fear that France would interfere in these colonies just as she had already done in Spain itself. Under these circumstances President Monroe warned the members of the Alliance that "we should consider any attempt on their part to extend their system to any portion of this hemisphere as dangerous to

our peace and safety," and that with regard to the new Latin American republics "we could not view any interposition for the purpose of oppressing them, or controlling in any other manner their destiny, by any European power in any other light than as the manifestation of an unfriendly disposition toward the United States."

This doctrine set forth the ideals of a rapidly developing nationalism and of a confident democracy. It looked forward to a series of American republics, freed from alliances with Europe, and working out their destinies in their own way. It sought solely to define the attitude of the United States, which was one of self-defense, and was based upon the assumption that Europe and America were very different, and had little to do with each other. For this reason it has sometimes been called the "Two-Spheres" doctrine. Four times during the next seventy-five years it was invoked to restrain European nations from enlarging their territorial possessions on the western hemisphere. The first time it was directed against Great Britain, which was interested in an isthmian canal and was seeking to obtain territory along the Atlantic coast of Nicaragua. The United States, which had just obtained Texas and California, now also developed a keen interest in the isthmus region and was unwilling to see a European country entrenched there. The result was the Clayton-Bulwer Treaty of 1850, according to which both powers agreed to withdraw from Central America and to pool their interests in a canal on a basis of equality.

The doctrine was invoked a second time to prevent a French colonial empire in Mexico, where the unfortunate Archduke Maximilian of Austria had been set up by French bayonets as puppet emperor in 1862. At the end of the Civil War American troops were massed on the Mexican border and the withdrawal of the French soldiers was demanded. Again in 1895, on the occasion of a dispute between Venezuela and Great Britain over the boundary between the former country and British Guiana, President Cleveland insisted that the matter be submitted to arbitration rather than to British dictation. In an extraordinary message Secretary of State Olney declared that "Today the United States is practically sovereign on this continent, and

its fiat is law upon the subjects to which it confines its interposition." Finally in 1902 Great Britain, Germany, and Italy blockaded Venezuelan ports in order to compel that country to make reparations for injuries to the persons and property of their nationals. The United States did not intervene during the temporary occupation of Venezuela, but used its good offices to induce that country to come to terms, and the matter ended satisfactorily.

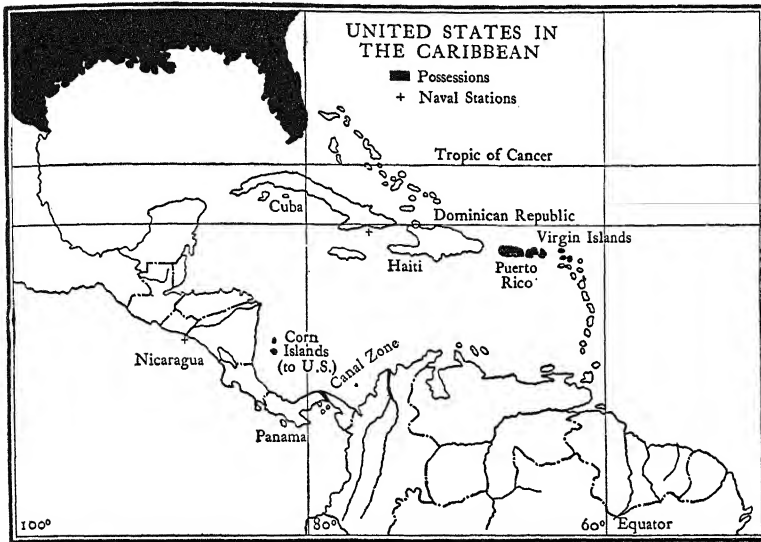
Our advance into the Caribbean.—The advance of the United States itself into the Caribbean was delayed until the Spanish-American War, but since that time has been rapid. As a result of that conflict the United States acquired the Philippines and Guam in the Far East and Puerto Rico in the Caribbean together with a virtual protectorate over Cuba. The United States thereby became a world power and thereafter modified its traditional policy of isolation. For ninety years the nation had devoted itself to the development of its internal resources and the solution of its social and political problems, but now it directed its gaze beyond the confines of its national boundaries. The industrial growth of the country, the increase in wealth and population, the rise of large scale manufactures, and other factors had resulted in an expansion of production that not only satisfied domestic needs but provided a surplus for exportation. The enforced economies of the years since the panic of 1893 had put the country in excellent shape economically, and after the war with Spain there was a tremendous outburst of energy along many lines. The changed economic situation undoubtedly influenced the foreign policy of the United States.

After the conclusion of the war the first question that presented itself was the disposition of our new possessions, for the Democratic party, led by William Jennings Bryan, opposed their retention. The issue was not really in doubt, however, for the popular view was voiced by President McKinley in 1899. "The Philippines, like Cuba and Puerto Rico, were intrusted to our hands by the war, and to that great trust, under the providence of God and in the name of human progress and civilization, we are committed." The pledge of the United States not to annex Cuba was observed, but its complete independence was limited by the Platt

Amendment, which we insisted should be incorporated in the Cuban Constitution. This provided that no foreign government should ever be permitted to gain a foothold in the island, that excessive debts should not be incurred, that the United States should have the right to intervene in certain circumstances, and finally that Cuba should sell or lease land for coaling stations to this country. On the other hand a reciprocity convention was adopted under which Cuban products were admitted to the United States, its best market, at a reduction of 20 per cent. Puerto Rico was retained and administered as an unincorporated territory under the jurisdiction of the United States, complete free trade being established between the two countries.

The acquisition of territory in the Caribbean, the possession of islands in the far Pacific, and the hope of greatly increased trade with the Orient turned the attention of the country with renewed interest to the question of an isthmian canal. Even more difficult than the engineering and financial problems involved, were the diplomatic complications. Since neither Colombia nor Nicaragua was able to construct or protect a canal, what might have been a mere matter of their domestic economy became one of international interest. In order to clear the way for independent action, the United States persuaded Great Britain to revoke the Clayton-Bulwer Treaty and to make the Hay-Pauncefote Treaty, by which we were left free to build a canal. After long debate the route across the Isthmus of Panama was decided upon and it was now necessary only to arrange a treaty with Colombia for the cession of the land required. The subsequent events have already been recounted, which led to the acquisition of the Canal Zone. The canal was begun in 1904 and formally opened to commerce in 1914.

The Caribbean policy of the United States.—Since the United States now controlled the great trade route between the Atlantic and the Pacific oceans, as well as possessions in the Gulf of Mexico and the Caribbean, it became increasingly important that this region be safeguarded from the intrusion of foreign powers. A specialized Caribbean policy was accordingly developed which asserted, in effect, that in this "American Mediterranean" the interests of the United States



were paramount. This assumption of international guardianship carried with it the suppression of "international nuisances," in the picturesque phraseology of Theodore Roosevelt, which might become dangerous to American peace and safety. Under this principle the United States, having paramount interests in the Caribbean, assumed the authority to compel the smaller states of that region to fulfill their international obligations in order to prevent interference by European powers. In some cases it landed marines, appointed financial officials, and administered the revenues until the finances were straightened out and civil order established.

The first instance of this sort occurred in connection with Santo Domingo. There a state of chronic insurrection prevailed, the national debt, two-thirds of which was owed abroad, had grown to \$32,000,000, on which even the interest was not being paid, and European intervention was threatened. The American minister suggested to the Dominican government that it request the United States to intervene on its behalf. A protocol was accordingly signed in 1905 which provided that the United States guarantee the territorial integrity of the Dominican Republic, take charge of its

customs, and settle its debt, foreign as well as domestic. Conditions were at once greatly improved, the customs receipts nearly doubled, and the debt was reduced to \$17,000,000 by compromises with the creditors. Under a treaty of 1907 the customs were to be administered by the United States, 45 per cent of the revenues going to the Dominican government and 55 per cent to the service of the foreign loans. The debt was refunded by American bankers.

President Theodore Roosevelt's action in taking this step was recognized as the most radical and important extension of the Monroe Doctrine that had ever been made up to that time. It marked the inauguration of a new policy on the part of the United States in Caribbean affairs, and yet it was the logical outcome of our previous attitude. We had notified European powers that we would not permit them to occupy American territory—and since 1823 no extension of their colonial possessions on the western hemisphere had occurred. If we were now to deny them the usual effective means of redress and pressure in enforcing the claims of their nationals, it seemed that we must accept the third option; namely, interference in the internal affairs of these republics to the extent necessary to maintain order and to ensure the meeting of just obligations. We had, in the words of President Theodore Roosevelt, assumed "the exercise of an international police power." This assumed responsibility led, in 1914, to the landing of American marines to supervise the elections in Santo Domingo, and two years later to military occupation of the entire republic. In 1924 a new constitution was adopted, with American approval, and a new government installed, after which the marines were withdrawn.

With two other Central American republics relations have been more difficult. Revolutions in Nicaragua had paralyzed agriculture and commerce in that country and led to financial chaos. In 1911 Secretary of State Knox negotiated a treaty by which a collector of customs approved by the President of the United States should be appointed, and the customs receipts be assigned to the service of loans to be advanced by American bankers. The plan was at once put into operation, but when the United States Senate rejected

the treaty, it was impossible to float a large funding loan, and the situation was as bad as ever. The Wilson administration followed the same policy and in 1916 obtained the ratification of a treaty under which Nicaragua granted the United States the exclusive right to construct a canal by way of Lake Nicaragua, and leased to this country for ninety-nine years a naval base on the Gulf of Fonseca, and two islands as coaling stations. In return the United States paid Nicaragua \$3,000,000, which was used to pay part of the public debt and for other purposes. Americans were placed in charge of the customs, which have been applied to the designated purposes. At the request of the Nicaraguan government an American mission, with the help of marine and naval personnel, supervised the presidential election of 1928. In spite of the depredations of the rebel Sandino a policy of non-intervention was announced by Secretary of State Stimson, and most of the American marines were withdrawn by 1931, a few being left to train the new Nicaraguan National Guard, to police the interior and maintain civil order. On January 2, 1933, the last of the American marines were withdrawn from Nicaragua.

The new Caribbean policy of the United States was carried to the furthest limits short of actual annexation by the convention of September 16, 1915, with the Republic of Haiti. This provided, as in the case of Santo Domingo and Nicaragua, for American control through the appointment of Americans as financial adviser and as receiver of customs; it also extended to Haiti the main provisions of the Platt Amendment, and it provided for a native constabulary under American officers. The reasons given by the Department of State for American intervention were partly humanitarian, to end the confusion and corruption of native rule; partly economic, to promote American financial and economic interests; and partly strategic, to obtain a naval base.² Little progress was made in the material regeneration of the country down to 1922, but after that date considerable was accomplished. The finances were put in order, the public debt was reduced and refunded, and local revenues applied to

² R. L. Buell, "The American Occupation of Haiti," in *Foreign Policy Association, Information Service*, Dec. 12, 1929, 341.

the building of roads, to sanitation, and to education. The economic development of the country through the investment of American capital was sought, but this was rendered difficult by provisions in the Haitian Constitution first forbidding and later restricting alien ownership of land in the republic. In spite of the undoubted improvement in conditions under the American occupation, the people were very restive, revolts broke out from time to time — the last one in December, 1929 — and much dissatisfaction with the existing situation was manifested not only in Haiti, but also in the United States.

The matters under dispute were finally settled by an "accord" of August 7, 1933. Under this an American official, beginning January 1, 1934, directed the customs service, paid the interest on the foreign debt, and to some extent controlled the internal revenue administration. This financial control was to end when the debt was finally paid. In the meantime the National Guard was to be Haitianized by October 1, 1934, and the American marines withdrawn within thirty days thereafter.³ This last provision was carried out on August 15, 1934.

A different method was followed in connection with the Virgin Islands, just off the coast of Puerto Rico, which were purchased from Denmark in 1917, with the approval of their inhabitants. The strategic position of the islands had long made them an object of interest to the United States and twice before attempts had been made to buy them. In 1867 a treaty of purchase was negotiated between the two governments, but was rejected by the United States Senate; a second arrangement in 1902 was defeated by the Danish Parliament; but the third treaty brought to a successful end fifty years of bargaining, though the price of \$25,000,000 was three times that originally asked. It seemed as though by now the Caribbean had indeed become an "American lake."

✓ The spread of American enterprise and capital was still greater in the neighboring country of Mexico. During the thirty-odd years of peace and stable economic development

³ D. G. Munro, *The United States and the Caribbean Area* (Boston, 1934), 193-194.

under the dictatorship of President Porfirio Díaz, American capitalists had invested about a billion dollars in the development of the natural resources of the country, especially in lands, oil fields, and mines, and Europeans perhaps half as much more. Díaz was overthrown in 1911 and the Constitutionalists attempted to introduce economic reforms looking to the break-up of large landholdings, the dissolution of monopolies in natural resources, and labor legislation, which were finally incorporated in the Mexican Constitution of 1917. Under Díaz the communal land of the villages had been largely turned over to the large landed proprietors and the villagers had become peons working for wages and held for debt instead of being independent peasant farmers. The praiseworthy efforts of the Mexican leaders to redistribute the land and restore to the peon the ownership of his village lands brought them into conflict with alien owners, including large corporations in the United States, which protested against the new legislation.

In the case of natural resources the Constitution of 1917, following the principles of Roman rather than English law, provided that the direct ownership of all minerals including petroleum is vested in the nation. In the United States the ownership of the surface conveys title to the sub-soil down to the center of the earth ; but under the Roman law, which prevails generally in Europe and Latin America, the ownership of the surface is distinct from that of the mineral deposits below the surface. Under Díaz the principle of the English law had been followed and American capital had been encouraged to invest in the exploitation of the natural resources of Mexico, and concessions had been granted. By the Constitution of 1917, however, the government claimed the right to apply the Roman rule. There could be no question as to the right of the state to apply this principle to future grants. The United States Department of State objected, however, to the confiscatory and retroactive character of the legislation passed to carry this provision into effect, claiming that it destroyed the rights of foreign investors in oil wells and mines. The uncertainties of the mineral holdings were aggravated by the imposition of heavy export duties on mineral and other products ex-

ported from Mexico. Recognition of Obregón as president was withheld by the United States until an understanding was reached as to the interpretation of these laws and as to claims and finances. The matter was finally settled by an amendment to the oil laws which was signed by President Calles on January 3, 1928, revoking the retroactive feature. After that time there was a decided renewal of good will between the two nations.

It must not be assumed that there were only divisive forces at work on the western hemisphere, for there was steadily developing a growth of mutual understanding and of common economic interest. In developing this feeling the Pan-American Union has been an effective agency. Organized by Secretary of State Blaine in 1888, it has helped to co-ordinate interests and activities among the Latin American republics and between them and the United States. It has placed emphasis upon jurisprudence, commerce and finance, and sanitation, and has done much to develop fraternalism and an appreciation of the essential unity of economic interests, and to work out plans of arbitration. The United States ratified, on January 20, 1929, a general treaty of conciliation with Pan-American nations, pledging resort to negotiation "when there is a prospect of disturbance of peaceful relations."

American policy in the Caribbean has often been derisively dubbed "dollar diplomacy," as though it sought only economic and financial gain. The immediate aim in practically every case of interference has been the re-establishment of law and order and the organization of a stable government. The motive which lay behind this objective, however, was usually canal strategy or the protection of the life and property of American citizens. Except for Panama and the Virgin Isles, there was no acquisition of territory after the Spanish American War, and in no case has this country set up its government on foreign soil. But the actions of a self-appointed guardian are always open to suspicion, and those of the United States, however well intentioned, frequently called forth criticism at home and abroad.

The acquisition of the Philippines, Guam and Puerto Rico gave us new international interests, and, with the building of

the Panama Canal, led to the development of new economic foreign policies which marked a wide departure from the original one of isolation. Again the American people may be said to have faced the Atlantic and directed their gaze toward Europe; or perhaps it would be more nearly correct to say that, having reached the Pacific, they adopted the Janus-like attitude of looking across both oceans. Their interests were now truly international.

It is difficult to speak of an American policy, for the attitude of the government has varied from one administration to another. The gamut has been run from the frank imperialism of Theodore Roosevelt through the idealism of Wilson and the legalistic theory of Coolidge to the non-intervention policy of Hoover and the "good-neighbor" doctrine of Franklin D. Roosevelt. The last seems to represent fairly the public attitude and to mark a long step forward toward the realization of more friendly relations with our neighbors to the south.

World War II, beginning in 1939, brought with it the danger that the Axis powers would seize colonial possessions of their enemies situated on the western hemisphere. This possibility was met by the Havana Convention of July 30, 1940, according to which the United States and all the Central and South American republics except Argentina, Bolivia, Chile, Uruguay, and Venezuela agreed to joint administration of European colonies and possessions in the Americas by an emergency committee in case of sudden crisis. The policy of joint action was carried still further after the declaration of war against the United States by Japan, Germany, and Italy in December, 1941. All the American republics made common cause and broke off diplomatic relations with the Axis powers, except Argentina and Chile. Some of them even showed their solidarity by declaring war. Common danger at last brought a recognition of their common interests and led to unity of action such as had never before been achieved.

The economics of expansion.—The motivating forces of territorial and economic expansion have been incidentally mentioned in describing the process, but it will be worth while to review briefly the factors which have led the United

States into these new paths of imperialism. Three causes have operated in the case of most nations to influence their foreign economic policy : (1) the need of food and raw materials which cannot be produced at home ; (2) the need of markets in which to dispose of surplus products ; and (3) the need of opportunities for investment ; that is, the loan of capital through the purchase of bonds or the opening up of fields in which business enterprises, such as trade, mining, lumbering, railroad construction, and similar undertakings, can be carried on.

Although the United States is exceptionally well supplied with natural resources, it needs to draw upon the rest of the world for certain things which it either lacks entirely or has in insufficient quantity. Of some importance in determining our foreign economic policy has been the desire to assure ourselves of adequate supplies of vital raw materials. The recent rapid development of motor transportation and the pre-eminence of the United States in this field directed attention to Mexico for oil and Liberia for rubber, in both of which countries American capital developed the native resources. We imported quantities of hides and skins from South America and wood pulp, lumber, and nickel from Canada, sisal and cocoanut oil from the Philippines, silk from Japan, tin from the Malay peninsula, rubber from the East Indies, and nitrates from Chile. The necessity of obtaining these vital products largely determined our commercial policy with these countries, and any move on their part to restrict the freedom of international trade in these commodities resulted in strong protest, as in connection with rubber.

More far-reaching in its effect upon the international relations of the United States has been the transformation in its export trade. During the first one hundred years of our national existence the bulk of the exports were food-stuffs and raw materials, for which the best market was Europe. In return the United States received manufactured goods. During the last fifty years, however, the economic development of this country has made it one of the leading manufacturing nations of the world, and with this transformation the export movement has shifted from raw mate-

rials and foodstuffs to manufactures. With this change has gone a shift in our export markets from Europe to industrially less developed countries such as Canada, Mexico, Cuba, Argentina, Brazil, Chile, and Colombia, and the Caribbean region. The dramatic change in the character of our exports has already been described.⁴ In certain kinds of manufactured goods in which mass production is possible, such as automotive vehicles, machinery, and other labor-saving devices, the United States has been able to establish practically world leadership. This country also ranks high as a producer of electrical equipment, generators, transformers, motors, radio apparatus, telephones and other supplies; of agricultural machinery, as tractors, harvesters, and other implements of power farming; of elevators, sewing machines, typewriters, adding machines, cash registers, and other products of the modern machine age. With the multiplication of these and other manufactured goods our business men have shown increasing interest in the development of foreign markets in which they can be sold. The change in the type of goods exported not merely required new and larger markets, but as a consequence also affected our foreign economic policy. Dollar diplomacy and insistence on the open door were both developed to assist our manufacturers and exporters to dispose of their surplus products abroad. This movement was summed up concisely by Dr. B. H. Williams:⁵

"The growth of American productive power and the ability to compete in the foreign market for manufactured goods has brought about a profound change in the commercial policy of this country. Reciprocity, special favors, and a contracted interpretation of the most-favored-nation clause have been abandoned and equal opportunity in the markets of the world is demanded. Discriminations against American trade are now considered to be a potential barrier to success in the future, and the doctrine of equality has been selected as the most appropriate weapon for the battle against such trade obstacles."

Conclusion.—It is evident that the United States has

⁴ See above, page 806.

⁵ *Economic Foreign Policy of the United States* (New York, 1929), 265.

traveled a long way since the days of Jefferson and no entangling alliances. Become a world power through irresistible territorial and industrial growth, the nation has been compelled to modify its traditional policy of aloofness and to take part in ever-increasing degree in world affairs. To-day it is enmeshed in war, international trade and finance by a thousand ties. During the period when American capital was being heavily invested abroad, the United States, under the influence of the business community, gradually changed its policy of non-interference into one of frequent intervention in those countries where American interests were considered paramount. After 1929 American investments lessened and our foreign policy became more pacific. In European affairs the United States refused to take part, and the refusal to join the League of Nations undoubtedly reflected the popular view, although Americans participated helpfully in conferences for the settlement of the reparation problem and other international questions. By the Kellogg Pact and participation in international conferences for disarmament we gave, moreover, proof of our earnest desire for peace and of our intention to devote our economic resources to the improvement of economic conditions in the world rather than to the work of destruction. The most important factor in breaking down the isolation which Washington approved has been the shrinking of the spatial world through improvements in transportation and the annihilation of distance through improvements in communication. National economy inevitably yielded place to world-wide interdependence and integration, in spite of utterances to the contrary. ✓ In the modern world no nation can remain wholly aloof, but each must co-operate in the promotion of the best economic interests of all.

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CHAPTER XXXIII

SOCIAL PROGRESS

The situation after three centuries.- The record of the economic development of the American people has been one of steady growth in material wealth and in the upbuilding of an enduring civilization. After three centuries of steady advance we have reached a position of pre-eminence as an industrial country. The situation may be stated somewhat as follows : We have large natural resources of almost every sort needed in modern production ; a working population of some 60,000,000 persons, many highly trained ; a supply of active capital of not less than \$150,000 million ; a highly efficient organization of industry, transportation, and finance, which permits very economical production and exchange of commodities ; and finally, political and social institutions which are distinctly favorable to the production and acquisition of wealth and to a high standard of living. In the process of building up this great economic organization certain features have been developed which may be regarded as peculiarly American, and these may be described briefly.

An outstanding characteristic, which particularly impresses foreign observers, is the far-reaching mechanization of industry and even of agriculture. While this is typical of all modern industrial countries, it seems to have been carried further along certain lines in the United States than elsewhere, and to have given a distinctive character to American methods of production, exchange, and even consumption. The scarcity of labor has always favored the invention and use of labor-saving devices, and it was soon found that these greatly increased the productivity of labor. What had been an expedient now became a national habit.

As the population grew and the market expanded, it was discovered that mass production was most economical along lines in which it was possible to market millions of units of

identical products. Those industries in which standardization of product was feasible and for whose output an elastic demand existed were accordingly organized along these lines. Among these are included agricultural machinery, automobiles, boots and shoes, clocks and watches, canned goods, electrical fittings, hardware, ready-made clothing, sanitary porcelain, radios, automobiles, and many other articles. Where hand labor or careful artistic finish is required, Europe or the Orient still leads.

Large scale production, interchangeable parts, and standardization are the trinity upon which American manufacturing has been built up. These have already been described,¹ but a word more on the social effects of standardization may be added. Lower costs are obtained by focusing on a few accepted models; danger of obsolescence is reduced; competition is made fairer, for the standard articles are comparable; and the best and most efficient design is usually worked out by careful research. Standardization has not merely reduced manufactured wares to a few patterns, but it has placed its impress upon consumption and social life. Mass production, national advertising, and chain stores, aided and abetted by a syndicated press, have given remarkable uniformity not merely to our automobiles, clothing, and cigarets, but even to our amusements, manners, and speech. Even our mental processes have been standardized by a uniform system of education. "It is the age of the machine triumphant," writes a contemporary critic. "We are but ants in the machine; the wheels revolve and we revolve with them—alarm clocks, time tables, factory whistles, ordinances, rules, the lockstep of industrialism!" Cheap and plentiful goods, it is claimed, have been produced at the expense of individuality. The point remains, however, that they have been produced, and the standard of living of the people has been raised to ever higher levels. And, along with the increase of material goods, the working time is being shortened, and greater leisure is made possible.

The distribution of wealth.—The great increase in the production of wealth is of course the most striking result of American enterprise. The period of the Civil War and of

¹ See Chapter XXVII.

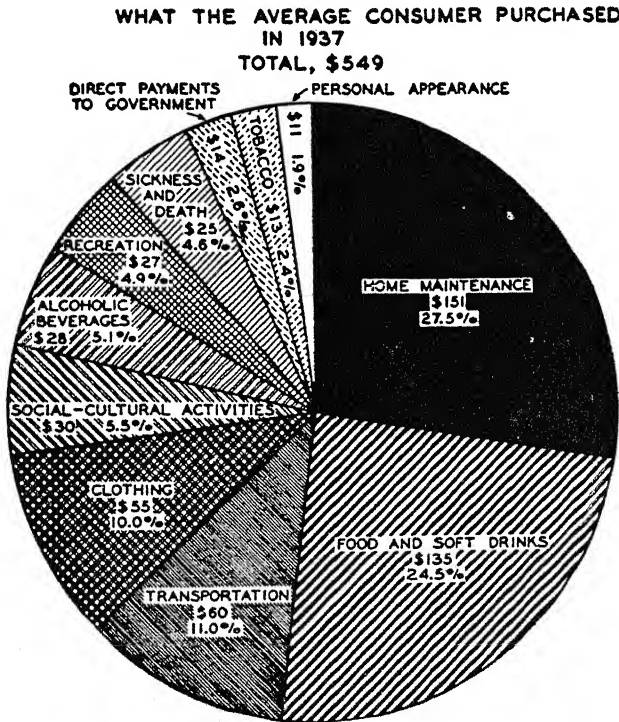
the succeeding years to the panic of 1873 was marked by increasing concentration of wealth and the emergence of large fortunes. The first to reach \$100,000,000 seems to have been that of Commodore Vanderbilt, who died in 1877. By 1889 it was estimated that six fortunes had reached that mark, but after this the rate of concentration seems to have slackened until the 1920's. "At the close of the [first] World War," wrote Charles and Mary Beard, "millionaires were almost as common in Detroit, Toledo, Indianapolis, Cincinnati, Denver, and Seattle as they had been in New York and Boston in the age of McKinley." In 1929 the Treasury Department stated that there were 513 persons in the United States with incomes of \$1,000,000 or more a year, of whom 38 received incomes of over \$5,000,000. By 1932 the depression had caused the disappearance of the multi-millionaire and had reduced the number of those with incomes of \$1,000,000 to only 20. This number rose somewhat during the 1930's, and in 1940 was 51. The accumulation of large fortunes had evidently been checked by the depression and their dispersal hastened by the income, estate, inheritance, and other taxes.

The ownership of the wealth from which these incomes were drawn has been investigated from time to time. In 1893 G. K. Holmes estimated from a study of the statistics of farm and home ownership in the United States in 1890 that "91 per cent of the families of the country own no more than about 29 per cent of the wealth, and 9 per cent of the families own about 71 per cent of the wealth." A generation later (1921) W. I. King, on the basis of a more careful study, concluded that 2 per cent of the population owned 40 per cent of the wealth. The most recent inquiry² reported that 1 per cent of the population owned 20 per cent of the wealth. It is evident that we have moved a long distance from the democratic conditions of comparative economic equality that existed in the days of Jefferson or de Tocqueville. And yet certain qualifications need to be made. Although there are many large fortunes in the United States, the members of the high income group are a constantly shifting lot. Carried to great wealth by a boom, they shrink back

² R. R. Doane, *The Anatomy of American Wealth* (New York, 1940), 32.

again in depression ; the permanent core is not large. There has also been a tendency for wealth to be distributed more widely, especially after the present income tax system went into effect. At the time of the Civil War the few wealthy were probably wealthier in relation to the mass than the larger number after World War I.

But the increase in wealth was not confined to the plutocrats, for the middle classes and the professions also shared generously. The real wages of the working population increased greatly, even more rapidly than the incomes of the middle classes, and many luxuries came within the purchasing power of the wage-earners. Their command over goods and services which promote health, comfort, and pleasure was broadened and consumption became more democratic. The average consumption for the year 1937 is shown in the following chart :



The outstanding fact revealed by the data upon which this chart was based is that one-half the families received annual incomes of less than \$1160. Since an income of \$1250 was held to be the minimum on which an adequate standard of living could be supported, it appeared that one-half all American families were unable to purchase needed supplies of food, housing, clothing, and other necessities and comforts of daily life. It must be said, however, that the figures were gathered during a depression; much depended, moreover, upon the concept of what was deemed essential. Had these families been content to live upon the plane of comfort enjoyed by their grandparents in 1870, an income of \$1250 might have sufficed. But in the interval the standard of living had been greatly raised and included conveniences such as improved plumbing, lighting, better food and clothing, recreation, and other items undreamed of seventy years earlier. The fact remains, however, that in spite of past gains a distressingly large percentage of the population has not shared proportionately in the advance. A long run survey shows a steady improvement, especially after the middle of the nineteenth century. Per capita realized income, adjusted by the general price level, increased from \$210 in 1799 to \$237 in 1849, to \$438 in 1899, and to \$590 in 1929.³ But even this gain is insufficient for general well-being; economic progress is to be achieved primarily by an increase in total national income as a result of augmented production.

The standard of living.—Economic advance cannot be measured accurately by statistics of wealth or of individual income alone. These need to be translated into the tangible commodities that we buy and the intangible benefits which we enjoy. Since all economic activity is directed in the final analysis to the satisfaction of human wants, we may fairly gauge our progress by noting how fully these have been met in some of the most important spheres of life.

Food.—The most striking features in the history of food during the past two generations have been the increase in variety, the lengthening of the season, and the decrease in

³ National Industrial Conference Board, *Studies in Enterprise and Social Progress* (New York, 1939), 83.

cost. Not merely was the table of the average man furnished with a greater variety of food in 1940 than in 1860, but the proportion that was fresh was much larger. Refrigerator cars, developed in the sixties, brought at first fresh meat and later fruits and vegetables to the cities; the rural population was less well served by such agencies, but many of this group provided fresh food for themselves. Perishable fruits and vegetables could be found in the larger cities every month in the year; improved transportation lengthened the season of consumption and made them available to those with modest purses. More recently automobiles, motor truck delivery, and chain stores have brought them within reach of the farm home.

Changes in consumption were also taking place. Less meat was eaten, corn meal was largely displaced by wheat flour, and in recent years this has fallen off, to be replaced by greatly increased consumption of milk, fruits, and vegetables. Partly responsible for this was the vast expansion of the canning industry, and partly the spread of education regarding the value of "protective" foods. Early experiments in scientific feeding had emphasized the value of calories and proteins, but with the discovery about 1916 of vitamins, increasing weight was given to the need for minerals and other essential elements. The shifts in consumption are clearly shown in the annual per capita use of a few selected foods. Between 1899 and 1939 the consumption of meat fell off nearly one-fifth, especially beef (from 67 to 54 pounds) and pork (from 72 to 57 pounds); this was largely due to the fact that fewer people were now engaged in heavy physical outdoor labor and more of them lived in cities. Bread ceased to be the staff of life, the per capita consumption of wheat flour actually declining during the twentieth century. On the other hand, the increased consumption of certain semi-luxuries, while not of great food value, showed a greater use, a wider distribution, and a higher standard of living among the masses. Thus, between 1871 and 1939 the annual per capita consumption of coffee grew from 8 to 15 pounds, of sugar from 36 to 108 pounds, and of tobacco from 4 to 6 pounds; the consumption of distilled liquors more

than trebled. Against this latter undesirable symptom may be placed the enormous expansion in the production of non-alcoholic beverages.

At the beginning of this eighty-year period 1860-1940 there was practically no governmental supervision or control of the manufacture and sale of food products; "let the buyer beware" was the slogan. This attitude worked little harm so long as most of the food was produced within the household, but when canning, baking, and the processing by factory methods of food for immediate consumption and the sale of various patent medicines became general, it proved dangerous. Agitation for federal pure food and drug legislation was initiated by Dr. Harvey Wiley in 1885, but made little headway against vested interests until the "embalmed beef" scandal of the Spanish-American War and the publication of Upton Sinclair's *The Jungle* disclosed the unsanitary methods of the meat-packers. An outraged public opinion forced the passage in 1906 of a Pure Food and Drug Act which closed interstate commerce to foods which contained any added poisonous or harmful ingredient that might render them injurious to health, which were decomposed or unwholesome, which were debased without the inferiority being indicated on the label, or which were deceitfully labeled. In spite of opposition and of the inadequacy of the legislation much was done under this act to protect public health. Food manufacturers saw the publicity value of pure food and put clean packaged articles on the market, whose sale was promoted by national advertising. Finally, in 1938, a new Pure Food, Drug, and Cosmetic Act gave much greater protection to consumers.

Housing.—In 1860 the typical dwelling was a frame structure, housing a single family. The destructive fires in Boston and Chicago in the 1870's led to fireproof construction in the cities, which was given further emphasis by the growing urbanization of the population. At the same time the building of multiple unit houses gained ground, which in the larger cities led to congestion and the development of tenement districts. The dangers to health and morals from bad housing called forth remedial legislation to abate some of the worst evils. The New York Tenement House Law

of 1867 was the first to set up minimum requirements as to light, air, sanitation, safety, and similar matters, and in 1901 a Tenement House Department was established to administer it. This was copied by other states and cities, but so-called housing laws setting up general standards for a whole community were not enacted until 1911, the earliest being that of Columbus, Ohio. But regulatory legislation merely prohibited bad houses; it did not provide good ones.

One obstacle in providing good houses at a rental within the means of the low-income group was the high cost of construction. It was found difficult to apply machine methods to building construction, and this remained largely a hand industry. Materials, too, rose rapidly in price, and it became increasingly difficult for the wage-earner to own his home or rent an entire dwelling. Another cause of higher costs and rents lay in the better standard of sanitation and comfort that was being demanded. Some of the largest cities provided water and sewer connections for the whole population, but in many towns and on farms these were lacking for large sections. Water was carried into the house from a hydrant or well, while backyard privies served from one to a dozen families. Only a few years ago St. Louis had 40,000 privy vaults, Philadelphia 60,000, and Baltimore 90,000, while such methods of sewage disposal were the general rule in farm houses. A Mississippi investigation in 1921 revealed that 61 per cent of the white and 85 per cent of the Negro families did not even have privies; 85 per cent of the families in a Georgia survey in 1923 were without any sort of sanitary convenience; and even in Montana, where all the families were white and of an enterprising type, nearly one-quarter were in the same situation in 1919.

It was conditions such as this that led to the conclusion that one-third of the families in the United States were living in good homes, one-third in fair homes, partially lacking in conveniences, while the last third occupied houses that were designated as sub-normal. It must not be overlooked, however, that the standard was much higher than would have been applied in 1860.

Efforts to provide good housing at reasonable rentals were made by limited dividend companies, beginning in the 1870's,

but these philanthropic organizations barely scratched the surface. The government's interest in the matter began during World War I, when the close connection between good housing and productivity was realized as an aspect of preparedness. In 1932 Congress passed legislation that recognized the government's concern in low-cost housing as a matter of public health, and also as part of a relief-work program. Nearly one-half the states now have laws for establishing local or state housing authorities with power to own and operate low-cost housing projects.

Clothing.—The drastic reduction in the price of cotton cloth resulting from the industrialization of cotton textile manufacture made it possible for people to have more clothes and to wear more cloth. The first was conducive to better health, the second probably was not. In 1855 a well-dressed woman required some 30 yards of cloth for her outer garments and close to 70 more for petticoats to make her skirt flare in a stylish bell shape.⁴ The effect of such a style on commercial and industrial history is obvious. It took two generations for women to discard much of the unnecessary yardage: most of the changes went on beneath the surface; first the wire hoop eliminated several petticoats, and other improvements followed gradually. Somber colors, especially black, replaced the brighter hues, but women's clothes were not permanently stylized by the coming of the sewing machine as were men's after the Civil War. About this time a change also took place in children's wearing apparel; previously their clothes had been modeled upon their elders', now somewhat more sensible types were chosen and manufactured with the help of patterns. Other clothing changes were the appearance of crooked shoes—lefts and rights—in the 1850's, the sale of suspenders, boots and mackintoshes after the discovery of vulcanization in 1839, and the observable decline in the price of silk goods which, however, still remained a luxury. The working classes of course could not afford many of these clothes except for "Sunday, go to meeting" purposes, and wore chiefly jeans, gingham, and calicoes. Linen declined in importance as a textile and less leather was also used.

⁴ R. G. Albion, *The Rise of New York Port* (New York, 1939), 55.

The passage of years further cheapened cloth, so much so that mere quantity of clothes no longer assured distinction. The heating of homes also made heavy clothing less desirable in winter, and certainly American summers offer little encouragement. No doubt, too, the triumph of common sense, the spread of co-education in schools and colleges, and the requirements of sport have done much to simplify women's clothes. Men now wear more than women, although in recent years they have favored lighter weight clothing in summer. One of the most noticeable changes is the greater use of silk in women's clothing that has come with the industrialization of the silk industry. And now rayon and nylon are replacing silk, lowering the price or improving the quality of what appears to be the same material. Another change has been the development of ready-made women's clothes for the working girl, a development which enables her to dress attractively on her wages and yet closely to resemble the *débutante* in appearance. The once obvious distinction in dress between social classes has largely disappeared. Rapidly changing fashions unfortunately prevent the realization of economies from these improvements.

Health.—For the individual, both as producer and as consumer, the preservation of health is of the first importance. It is essential because only physically healthy men can normally put forth their best powers as producers, and because illness and disease are in themselves a heavy burden and prevent the realization of a full life. During the period under review there was unprecedented advance in the prevention of disease and in the care of those needing medical attention. Certain diseases, such as smallpox, leprosy, yellow fever, tetanus, cholera, diphtheria, and typhoid have been practically abolished. A striking illustration of the advance along this line is furnished by the statistics of disease in the American Army. In the Spanish-American War 20 per cent of all the American soldiers were infected by, and 86 per cent of the deaths were caused by, typhoid fever. In World War I between September, 1917, and January, 1918, a period of about the same length, there should have been 150,000 cases if the same proportion had held; as a matter of fact, there were only 114 cases. As a result of pure

water and pasteurized milk, typhoid deaths in the United States dropped from over 46 per 100,000 in 1890 to less than 2 per 100,000 in 1938. While the record is not so brilliant for tuberculosis, malaria, hookworm, and syphilis, these have been brought under effective control by the prevention of infection, by better understanding of and elimination of parasites, and by serum treatment. The prevention of the common cold and the more deadly influenza still baffles medical science.

The decline in the death rate is a most encouraging sign of the improvement in public health, indicating as it does a growing mastery over the dread enemy, disease. There has been a steady decline in the death rate in the United States in those areas where records have been kept from 19.8 per 1000 inhabitants in 1880 to 10.6 in 1939. The decline in the death rate is ascribable in the first place to the spread of general education in matters connected with health, resulting in better sewage disposal, purer water and foods, saner diet, and more attention to personal hygiene. The expectation of life at birth in 1860 was about 40 years; today it is about 60 years, though this is due primarily to a decrease in infant mortality. And the 60 years of the present generation will be clouded by less suffering and disease than the 40 years of the earlier period.

Responsible for this advance was a phenomenal improvement in medical science and in surgery. Increasing emphasis has been placed upon preventive medicine in all its forms. Medical schools enforced higher standards and co-operated with hospital clinics to turn out experienced doctors. Nurses' training schools in connection with hospitals began in the seventies and are today universal. Not only was the quality of hospital care improved by these developments, but the number of hospitals greatly increased and equipment became more specialized and expensive. Between 1909 and 1940 the number of beds in hospitals in the United States practically trebled, increasing from 421,000 to 1,226,000; this growth was more rapid than that of the population.

Health became a matter of public concern in the sixties as disclosures of bad housing and other evils in the cities aroused the public conscience. New York City established a health

department in 1866, and three years later Massachusetts founded a state board of health. Today all the states and most of the cities in the United States have such organizations, and in 1912 the federal Public Health Service was set up. The early health authorities endeavored by the exercise of the police power to protect the public against unsanitary environmental conditions, polluted food, and the dissemination of communicable diseases. As better sanitation and improved medical science conquered these dangers, the concept of public health was broadened from prevention of the spread of disease to one of responsibility for the development of a good environment and of healthful habits on the part of individuals. The rôle of medical care was also enlarged; it was to prevent disease as well as to cure it. Health education was introduced into the schools and is now widespread. Unfortunately, the cost of medical service is high, though group medicine and possibly compulsory health insurance might ultimately provide everyone with proper medical care. The broadened concept of public health thus raises economic and social problems. Disease is associated with poverty and ignorance; to banish the former it is necessary to grapple with the latter. Fortunately, progress along these lines has been steady.

Leisure.—Foreign visitors to America in the middle of the last century frequently remarked that the American was too absorbed in the serious business of making money to relax and play. A writer in the first issue of the *Atlantic Monthly* in 1858 queried, "Who in this community really takes exercise—Even the mechanic confines himself to one set of muscles, the blacksmith acquires strength in his right arm—But the professional or business man, what muscles has he at all?" The average worker in 1860 worked eleven hours a day, with Sundays and holidays off but no paid vacations. His leisure has been estimated at twenty-four hours a week, but household routine in those unmechanized days often required much of this time to be spent on chores. Amusements for the upper classes in the 1860's consisted of attending a horse race, a musical recital or a theater, possibly to see *Uncle Tom's Cabin* or a Shakespearean tragedy, followed by a farce, as a chaser to lift their spirits. Croquet and archery

were popular in the afternoon, mixed bathing was coming into vogue in the summer, and there was the hunt in the South. The common people had begun to appreciate baseball, P. T. Barnum was attracting thousands to the circus, and such other spectator sports were beginning to appear as foot races, prize fights, and sailing regattas. Along the Mississippi dazzling showboats occasionally tied up at port towns bringing melodrama, musical extravaganza, and minstrel shows from the outside world. Country people found entertainment at church gatherings, country fairs, picnics, and sleighing parties, but co-operative jamborees like barn-raising and husking bees were dying out as the frontier advanced westward. Intellectuals founded local lyceums to bring in prominent lecturers to talk on philosophy, prison reform, and women's rights; among college students debating societies were prominent and sports lacking, which may explain the frequency and severity of student riots. But on the whole, sports and leisure occupations were on a simple plane, for people had little time to devote to them.

Today people have more leisure than ever before. The forty-hour week prevails normally in many occupations, which means not only that the working-day is three hours shorter than in 1860, but the work-week is at least half a day and often a day shorter. Holidays are more numerous and many persons in white collar occupations receive at least two weeks' paid vacation a year. The worker's leisure was estimated to be thirty-six hours in 1931 and is doubtless more now. Countless gadgets and household improvements have reduced the time needed by both the worker and his wife to perform household chores, making available much spare time for relaxation. Between 1924 and 1938 the amusement industries of the nation averaged an income of over \$1000 million a year. New forms of recreation have appeared: the theater and vaudeville have given ground to the movie in the last generation; the radio, unknown twenty years ago but now found in most homes, has largely replaced concerts and lectures and even affected reading habits; and dancing, no longer frowned upon as immoral by any considerable portion of the population, is a favorite pastime. One of the greatest changes has been the growth of sports,

especially organized sports, until today the great athlete is admired and worshiped as much as he was in ancient times. One sport after another introduced by society leaders has been taken over by the masses. For example, baseball was begun before the Civil War, college football in 1869, lawn tennis in 1874, bicycling and polo both about 1876, and golf around 1888. Every year, often in numbers of fifty or one hundred thousand at a time, millions are attracted to the huge stadiums to watch baseball and football games. Although millions watch, millions also engage in some kind of competitive sport themselves. Girls have invaded almost every kind of sport and in some achieved close to equality with men. Public parks, picnic grounds, beaches, and forest preserves have been set aside in every section of the country so the city dweller may escape the heat and monotony of city streets. Entire states, like Maine and Florida, advertise themselves as the playgrounds of the nation and cater to summer or winter vacationists. Whether all this leisure and sport strengthen the endurance and character of the people may well be demonstrated by World War II.

Public services.—The citizen of 1860 rarely complained that the government was interfering in his affairs or competing with his business, for the spirit of *laissez faire* was dominant. The services rendered by the various governments seem meager when measured by our present day standards. The federal government provided Army and Navy protection against foreign invasion and domestic insurrection, maintained courts, enacted necessary laws, and had created two new cabinet posts since the nineteenth century began. The Post Office Department was given cabinet rank in 1829 and the Interior Department set up in 1849 to handle such miscellaneous bureaus as the public land office, pensions, Indian affairs and the decennial census. A Department of Agriculture without cabinet rank was founded in 1862, a Bureau of Education was begun in 1867, and many of the land grant colleges originated in the 1860's. But as yet there were no regulatory commissions, little thought of protecting the consumer against fraud, and no concern for the unemployed, injured, over-age, or child laborer. In the advanced states public schools were free, but elsewhere parents of school children

paid fees. Local governments provided police and maybe fire protection and a few minor services. The most tangible thing a citizen might receive from his government was cheap or free land, but the best of this was obtained by big business and speculators rather than the little man. However, since taxes totaled only about 2 per cent of national income perhaps the above was service enough for what was paid.

Before the outbreak of World War II our various governments absorbed about 20 per cent of the national income and during the war threaten to take about 50 per cent. Since the Civil War these governments have taken upon themselves countless responsibilities as *laissez faire* has waned and something resembling mercantilism has returned. Four overlapping groups have been the objects of government concern; namely, consumers, workers, small business men, and the poorer classes among the general public. Since the Granger Movement of the 1870's more and more businesses have been declared "affected with public interest"—railroads, grain elevators, gas and electric companies, street car lines, insurance companies, and stock exchanges—and have had their rates and activities placed under commission regulation. A Pure Food and Drug Act was passed in 1906 which has since been repeatedly improved. Since the advent of the "New Deal" billions have been poured out to relieve victims of the depression; unemployment insurance and old-age pension systems were set up under the Social Security Act of 1935 and accident insurance laws started. In recent years the A. A. A. and succeeding programs have endeavored to prevent the small farmer from hurting himself by ruinous competition and to increase his income. The people have received more dollars of free income from public schools and state universities than any other public service. There were 1,500,000 miles of surfaced roads in 1938, and our millions of acres of national parks, founded since 1890, were visited by nearly 17,000,000 persons in 1940. Local police and fire protection have improved and been supplemented by many other services, like hospitals and libraries, as state and local governments tripled their per capita expenditures between 1890 and 1924. Professor Douglas has estimated that the American worker in 1924 enjoyed a 7 per cent gain

in real income from free services over his father in 1890 and there can be no doubt that this has been greatly augmented under the "New Deal."

Education.—One of the basic assumptions of democracy is that the people will think intelligently about the issues of the year and elect reasonably competent representatives to carry out their wishes. Thus, for democracy to succeed the people must be educated. Growing recognition of this fact has produced a steadily improved educational system, especially during the last seventy-five years. By 1938 the nation was spending over two billions on its public schools and another two-thirds of a billion on its colleges and universities each year.

In 1860 most schools were of the rural one-room type, in many states schooling was not yet free, the curriculum often consisted of little more than the three R's—readin', 'ritin' and 'rithmetic—which quite likely were "taught to the tune of a hickory stick" wielded by a stalwart schoolmaster; he had to be strong to cope with the big boys. One result of the Civil War was the hiring of many more women teachers, who brought to the schoolroom a slightly more humanizing influence. There were perhaps three or four hundred high schools in the country, and 250 colleges, many of them inferior to a present day good preparatory school but beyond the reach of the average youth. The impracticability of Latin, Greek, and other classical studies, the chief subjects taught in these colleges, had started an "Industrial Movement" which in 1862 produced the Morrill Act for the establishment of colleges in each state primarily "to teach such branches of learning as are related to agriculture and mechanic arts . . . in order to promote the liberal and practical education of the industrial classes in the several pursuits and professions of life." The land grant colleges which were thus spawned in the 1860's and have since become our great state universities were at first supported by the proceeds of the sale of lands set aside by Congress for this purpose. At this time co-education was in its infancy, not only in colleges but also in high schools, none of which prepared a girl for college because girls' colleges were so very rare. Graduate work was just being inaugurated at Harvard, but

the Master's Degree was the highest degree attainable. As for Negroes, it was illegal to teach them to read in the South, and there was little provision for their education in the North.

PUBLIC SCHOOL DEVELOPMENTS*				
1870-1938				
	1870	1900	1920	1938
Percentage of children 5-17 enrolled in public schools.....	57	72.4	77.8	88.4
Average number of days annually attended per enrolled pupil.....	78.4	99.0	121.2	149.3
Percentage of youths 14-17 in high school	—	10.3	26.4	67
Average salary of public school teacher...	\$189	\$325	\$871	\$1374
Average educational expenditure per school pupil in average attendance.....	\$15.55	\$20.22	\$64.16	\$99.70

* *Statistical Abstract of the United States*, 1940 (Washington, 1941), 108.

Today the picture has altered greatly. There are now thousands of well-equipped brick schools with a separate room for each grade. Only 4 per cent of the population are illiterate instead of 20 per cent as in 1870, an illiterate person being defined as anyone over 9 who cannot write in any language. The three R's have been supplemented by other useful subjects; most schools are on a co-educational basis; there are classes for the very young children, and Negroes receive an education like other citizens. The first trade school was founded in 1880 and after World War I vocational education grew rapidly in popularity. Schools have been founded for the blind, deaf, feeble-minded, crippled, and others needing special attention. Two-thirds of the youth of high school age attend high schools and either prepare for college or take a more practical curriculum that includes such subjects as typewriting and shorthand to help them get a job. The great state universities virtually carry the possibilities of free public schooling through four years of college and beyond. Thousands now do work at the graduate level to prepare themselves as doctors, lawyers, scientists, and educators. University libraries are among the

finest in the country and millions of dollars have also been put into experimental laboratories. Like the one-room schoolhouse, the ungainly one-building college has largely vanished.

Social control.—Down almost to the end of the nineteenth century the prevailing economic philosophy of the American people was one of *laissez faire*, of almost unrestricted individualism. With practically free land and apparently boundless national resources the economic virtues called for were initiative, enterprise, energy, and skill to develop these resources and to convert the raw land and materials into consumable wealth. So long as there was enough for all, little disposition was manifested to curb the activities of the enterprisers who were building railroads, drilling oil wells, opening mines, cutting lumber, ranging the public domain, and in other ways building up their fortunes. But in the inevitable clash of conflicting interests that developed, protests began to be raised against the less defensible practices of these despoilers, and when the first national inventory of our natural and human resources ever made⁵ revealed a startling depletion of our patrimony, the protests swelled into a cry for regulation and control.

The new point of view is well stated by a competent French observer.⁶ "Little by little the successes of the heroic age diminished, and a reaction against exploitation set in among business men. By the end of the century the West was no longer a land of adventure beyond the frontier of civilization. People had begun to adopt the idea that industry and commerce were more or less public functions involving responsibilities and duties toward the community. In a sense this was a Puritan tradition, but the [first World] War hastened this evolution by putting industry for the first time at the service of the nation. Production was now looked upon as a unit, and as a national rather than an individual affair."

The first protests after the Civil War had been made by the farmers who felt themselves aggrieved by high freight rates and who demanded public regulation of the railroads.

⁵ *Report of the National Conservation Commission* (Washington, 1909).

⁶ André Siegfried, *America Comes of Age* (New York, 1927), 171.

While the Granger legislation was extreme it set a clear precedent, which was followed by the federal interstate commerce acts, lukewarmly at first, but with increasing vigor as public approval was manifested. Today the *laissez-faire* doctrine has been practically abolished in this segment of economic activity. Business and industrial monopolies were next brought under control by the Sherman Anti-trust Act of 1890, in order to preserve competition. As the advantages of large scale industry and of co-ordinated management came to be recognized more clearly, the Clayton and other acts were passed to define more carefully combinations in restraint of trade and to restrict these when necessary in the public interest. The Federal Trade Commission was established to ensure fair dealing, and the pure food law still further extended the regulation of private business in order to protect consumers from the harmful practices of the unscrupulous few. Credit control and price stabilization are being increasingly employed by the Federal Reserve Board and by other newly created federal agencies, in an effort to control the business cycle and to prevent inflation.

Increasing safeguards have been thrown around labor, though by state rather than by national legislation, in order to ensure it against exploitation. ✓ Laws prohibiting child labor, limiting the field of employment and hours for women, regulating dangerous trades, prescribing minimum wages, workmen's compensation laws, and general factory acts have been passed by most of the states. ✓ The federal government has, moreover, endeavored to protect the standard of living through restriction of the supply of labor by restrictive immigration legislation. The early assumption of capitalism was that the existing system was divinely ordained and that the determination of wages and working conditions rested solely with the employer. This was bluntly stated by one capitalist—George F. Baer—as follows: "The rights of the laboring man will be protected and cared for, not by labor and agitation, but by Christian men to whom God in His infinite wisdom has given control of the property interests of this country." It is evident, from the present lack of sympathy with such a point of view, that the pendulum

has swung a long way from unrestricted freedom of economic action toward government regulation.

But the departure from *laissez faire* has been marked not only by the control of harmful practices, but also by constructive aid along a number of different lines. The post office, the only business enterprise carried on by the federal government, has been made to serve the public and even to compete with private business by the extension of free rural delivery, and the establishment of the parcel post and postal savings banks. To no group has more government assistance been granted than to the farmers, both by the guaranteeing of easy credit and the organization of more efficient marketing agencies, and by helpful advice and guidance through state agricultural colleges and experiment stations and county advisers. Even industry, usually distrustful of government interference, has long accepted tariff favors.

The tendency to enlarge the functions and powers of government has been proceeding steadily for the past fifty years. Federal and state governments have not only set up many regulatory commissions, but have also greatly expanded government enterprises and have entered many fields previously occupied by private industry. The federal government owns and operates a railroad in Alaska, a barge line on the Mississippi River, electric power development plants, and at one time owned and operated a considerable merchant marine. State and local governments operate practically all sewage disposal plants, most of the water works, and many other public utilities, such as lighting and electric power.

The greatest departure from our traditional policy of individualism has been made under the so-called "New Deal" of President Franklin D. Roosevelt. By this, conscious and deliberate government action was taken to help, control, and direct economic activities. In Russia such action was designed to abolish the competitive system, but in the United States the existing price and profit system remained with only a somewhat greater degree of control. The pendulum has swung far from a régime of *laissez faire* in the direction of increasing powers of regulation and operation. The long struggle between freedom of enterprise, with its attendant

risks and disequilibriums, and security, even at the sacrifice of a certain degree of freedom, seems about to end in at least a partial defeat of the former. The outbreak of World War II has greatly accelerated the movement toward social control, as the necessities of total war subordinate private interests to national safety. Whatever the outcome of the war, it is improbable that we shall ever move back very far toward the "rugged individualism" of Hoover. A new era is in the making.

Further reforms.—It is easier to chronicle and criticize than to suggest constructive remedies, but certain conclusions may be stated. Monopoly and special privilege must be prevented or, where inevitable, brought under strict social control. Not only this, but society should also assert its rights to all unearned values by ownership, by special taxation, or by other methods. Limited natural resources must be saved to future generations, and this should be done by the means that seem most feasible under the particular circumstances, whether this be government ownership, regulation, fixation of rates, or assistance. Although the old ideal of a free farm or unrestricted access to natural resources ended with the close of the last century, the door of economic opportunity along other lines must be kept open as wide as possible for all alike. To effect this there is no better method than education.

This book has related the story of the economic conquest of a virgin continent by man, of the appropriation of its resources to his uses, and of the development of a highly efficient industrial organization for the production of wealth. In the pursuit of these aims we have neglected the study of the most rational utilization of this wealth, or expenditure of income, but among all the reforms suggested this would probably yield the greatest immediate improvement in economic conditions. Education in consumption, in the art of spending, has lagged behind, but is scarcely less necessary both to prevent waste and to achieve greater economic satisfactions from existing wealth. This may be obtained by greater wisdom in the expenditure of his income by each individual, by the greater socialization of wealth, as in the form of libraries, art galleries, parks, municipal swimming

pools and golf links, and by the shortening of the working-day, whereby leisure, one of the greatest boons of our material civilization, will be more generally distributed. We may trust to education to teach the best use of this leisure.

By means of better education, especially along vocational lines, increased individual efficiency can be obtained and economy in national production augmented. The new technology is, moreover, making greater demands upon science and scientific training, which are being steadily strengthened in our schools and colleges. Better distribution of wealth requires that production be kept at its present high level or increased. The future holds grave responsibility for the wise and conservative solution of this and other economic problems, but also great promise if we maintain the high ideals of the first settlers on these shores.

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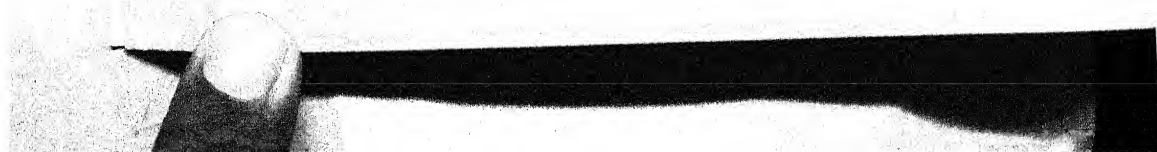
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